

# Assessing the Effects of Disruptive Issues on the CSR of Canadian Multinational Gold Companies

by

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## **Author's Declaration**

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

## Abstract

Mining activities provide significant economic and social benefits to Canada, and to the areas in which Canadian multinational mining companies operate internationally. However, mining activities also present both social and environmental issues. Despite the efforts to mitigate these issues through a number of risk management tools, including those of corporate social responsibility (CSR), they continue to take place. Through the lens of organizational attention, this thesis sought to answer the question, *How do mining issues affect the CSR policies and practices of Canadian multinational gold companies?* Through an exploratory sequential mixed-methods research design, 14 Canadian senior- and intermediate-level multinational gold companies were selected as the sample of this thesis. Data from five semi-structured interviews revealed that issues affect risk management systems, environmental and social issues are responded to differently, and issues spur the development of industry standards. Data also revealed that no single issue was paramount in causing behavioural change within the sample, but instead the occurrence of issues is one of many reasons for making changes in CSR practice. A content analysis was undertaken to assess whether the differences in identifying and responding to environmental and social issues found in the interviews was reflected in the corporate reports of the 14 companies in the sample. Results suggest that social issues tend to have a lingering effect as compared with environmental issues. This thesis contributes to the academic literature by providing evidence as to how Canadian gold mining companies identify and respond to environmental and social issues, as well as why these companies identify the risk of certain issues and not others. This thesis identifies the need for industry practitioners to find best practices to identify and respond to issues, particularly on the social side. One way to do this is for an industry association to develop a forum where companies that have faced certain social issues can collaborate and develop prescribed ways to address these issues.

Key Words: Corporate social responsibility, mining issues, risk management, tailings spill, gender-based violence, environmental issues, social issues

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# **Chapter 1**

## **Introduction**

The Canadian mining industry has remained significant through the provision of economic and social benefits to the Canadian and global economies. In 2014, Canadian mining assets (those owned by Canadian mining and exploration companies) abroad were located in over 100 countries and were worth more than \$170 billion (Natural Resources Canada [NRCan], 2016). Canadian gold mining companies in particular were responsible for exporting \$18 billion and importing \$9.7 billion worth of gold in 2015 (NRCan, 2016). Gold was Canada's highest valued commodity at \$8.3 billion in 2016 (NRCan, 2017). Significant economic and social contributions arise from this and are operationalized through activities such as employment, procurement, philanthropy, taxes and royalties, and the many other contributions that Canadian multinational mining companies make in the communities in which they operate.

Despite the significant economic and social benefits of the Canadian gold mining industry, its activities are not without detrimental effects. The environmental and social costs associated with the mining of gold, particularly in the areas where operations take place, has been brought to the fore in recent years. Environmental issues include tailings failures (Schoenberger, 2016), poor water management, reduction in biodiversity, high greenhouse gas (GHG) emissions, inadequate energy management (Mining Association of Canada [MAC], n.d.-b), and accelerating climate change (Jenkins & Yakovleva, 2006). Limiting social issues include relationships with indigenous groups (Franks & Vanclay, 2013), relationships with other communities surrounding mining projects, human rights, health and safety, employee wellbeing (Jenkins & Yakovleva, 2006), the resettlement of communities, ethics, and corporate governance (Hart, n.d.). However, given the economic significance of the industry, especially in Canada and developing countries, and the importance of gold, which is illustrated by its many uses, clearly mining will not come to an end. Therefore, it is imperative that mining is practiced responsibly to mitigate the occurrence of issues and to decrease the negative impacts of mining activities.

Sustainable development and corporate social responsibility (CSR) tools are used to reduce and manage risk and to mitigate mining issues. A social license to operate (SLO) has a greater chance of being developed and maintained through quality and sustainable stakeholder engagement, thus permitting companies to conduct operations (Franks, Davis, Bebbington, Ali, Kemp, & Scurrah, 2014). Through stakeholder engagement, companies can become aware of the risks that they face and determine how to address these risks (Kytte & Ruggie, 2005).

A sample of 14 senior and intermediate Canadian multinational gold companies was assessed using an exploratory sequential mixed-methods research design. Stage one of the research consisted of five semi-structured interviews with five industry experts. Findings from these semi-structured interviews show:

- Mining issues have impacted the CSR policies and practices of the industry, causing the development of standards and regulations. Mining issues have also had a range of effects on the CSR of Canadian multinational gold companies, and these are apparent in some of their risk management systems.
- A spectrum of risk management was evident within the sample. This ranged from an approach where some employees spend most of their time on the ground engaging with local stakeholders, to companies which have comprehensive risk management systems that include the identification of issues and their probability and severity.
- Issues are not the sole reason for groundbreaking changes; instead, much thought goes into proactive behavioural change within companies and the industry.
- Environmental issues are easily quantifiable, and management can be prescribed. Hence, when environmental issues occur and are dealt with, they do not usually have a long-lasting effect. In contrast, even after social issues have been dealt with, their effects remain and companies must continue to respond to these effects. These issues and their residual effects contribute to the negative perception of the mining industry.

Stage two of the research involved a content analysis (CA) of corporate reports that analyzed the frequency of words related to two mining issues, specifically the Mount Polley tailings spill that occurred in 2014 and the gender-based violence (GBV) allegations that Barrick Gold Corporation faced in 2011. Constructs developed from these issues were *tailings spill* and *GBV*. Sustainability and annual reports of the sample from the year before and the year subsequent to these issues were analyzed in a CA using a computer aided text analysis (CATA) program that calculated the frequency of words from word lists related to the constructs. The program identified whether there was an increase of specific words in the year after the occurrence of the issues, and the data was used to illustrate how the reports were affected by these two issues.

This thesis contributes to the academic literature as well as to industry practice. Based on a review of the CSR literature that focuses on the mining industry, the exploratory sequential mixed-methods design employed in this research is novel. The second contribution that this thesis makes to the literature is the knowledge provided on environmental and social mining issues, specifically the explicit differences between how these are identified, measured, and handled, and the effects they have on Canadian multinational gold companies. While this thesis analyzes both types of issues, they are examined separately through the CA; also, participant responses in the interviews highlighted the differences between environmental and social mining issues.

This thesis also has a practical contribution to the mining industry. During the interviews, participants acknowledged the difficulty in assessing social issues. While recognizing the complexity and uniqueness of social issues, this thesis supports the need for the industry to continue to look for ways to identify and respond to social issues, with the goal of eventually establishing prescribed approaches or resolutions. Given the ongoing occurrence of these issues, it seems that current systems are not as effective as they should be, and this should motivate companies to evaluate their current risk management and issue-identification practices.

## **1.1 Theoretical Perspective**

This research uses organizational attention (OA) to assess whether there is a difference in how companies identify and respond to environmental and social issues. OA is defined as “the socially structured pattern of attention by decision-makers within an organization” (Ocasio, 1997, p.188). OA explains why companies do what they do, and particularly why decision-makers within companies focus their attention on certain issues and not others (e.g., Ocasio, 1997).

How the attention of corporate decision-makers is distributed and regulated is based on three principles: focus of attention; situated attention; and structural distribution of attention (Ocasio, 1997). OA forecasts the behaviour of decision-makers based on situational influences and the corporate environment.

However, March (1994) outlines limits:

Time and capabilities for attention are limited. Not everything can be attended at once. Too many signals are sent. Too many things are relevant to a decision, because of these limitations, theories of decision making are often better described as theories of attention or search than as theory of choice. They [decision-makers] are concerned with the way in which scarce attention is allocated. (p.10)

In light of these limits, companies are most likely to focus their attention on issues that are significant to them, and issues that they are accountable for, including those that can affect their reputation. Putting this information in the context of this thesis, individuals in mining companies are expected to address issues once they are noticed and have impacted their companies. Until then, issues are likely to remain latent and thus will not be addressed.

## **1.2 Literature Gap**

This thesis uses the following definition of CSR: “The social responsibility of business [to encompass] the economic, legal, ethical, and [philanthropic] expectations that society has of organizations at a given point in time” (Carroll, 1979, p. 500). CSR has evolved from sustainability (Sharma & Bhatnagar, 2015), and reasons for practicing CSR consist of the

components of legitimacy, and specifically include: being the norm; addressing external pressures (Dashwood, 2012); developing a positive reputation (Fombrun, 2005); gaining increased legitimacy (Jamali & Mirshak, 2007); and company values (Dashwood, 2012).

Mining activities can have both social and environmental impacts. There are a variety of ways for companies to mitigate these issues. CSR is one risk mitigation tool (Kytte & Ruggie, 2005), especially if stakeholder participation and high-quality stakeholder engagement is involved. When this is the case, chances of companies gaining an SLO in the areas in which they wish to operate improves (Franks et al., 2014), and that in itself is a risk mitigation tool (Boutilier, Black, & Thomson, 2012; Demuijnck & Fasterling, 2016). Complying with policies and regulations (Franks et al., 2014) and joining voluntary initiatives (Schiavi & Solomon, 2007) are additional ways to mitigate environmental and social risks.

While the literature presents certain mining issues and their repercussions, the effects on corporate behavior in the area of CSR practices and policies has yet to be explored empirically. Additionally, the literature does not address the difference between the identification and response to environmental and social issues, (ie. Dashwood, (2012) and Jenkins (2003)), nor does it explain why companies identify and in turn respond to certain issues and not others. OA can address this.

### **1.3 Research Question and Objective**

The research question that this thesis addresses is:

*How do mining issues affect the CSR policies and practices of Canadian multinational gold companies?*

The following is the main research objective of this thesis:

Assess whether Canadian multinational gold companies identify and address environmental issues differently than social ones.

## **Chapter 2**

### **Literature Review**

#### **2.1 Sustainable Development and Business**

##### **2.1.1 What is Sustainable Development?**

Sustainable development is defined as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (World Commission on Environment and Development [hereinafter “the Brundtland Report”], 1987, p. 43). Sustainable development considers the economic, social, and environmental benefits (aimed to be maximized) as well as impacts (attempted to be minimized) of development (United Nations Economic and Social Council, n.d.; Dashwood, 2012). The Brundtland Report (1987) identifies the significant role that multinational companies (MNCs) can have in achieving sustainable development, particularly when they operate in developing countries.

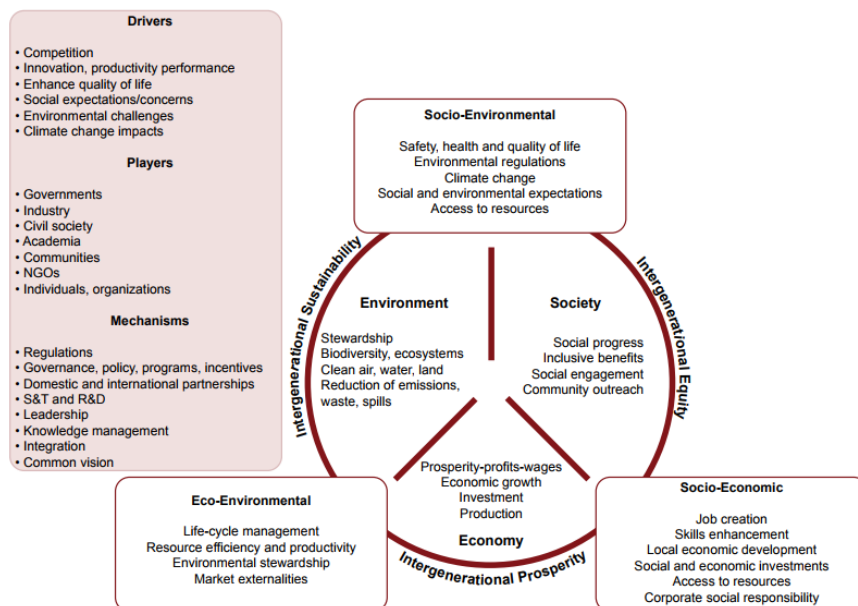
The MAC’s Whitehorse Mining Initiative (WMI) in 1993 was among the earliest recognition of the importance of sustainable development in the mining industry (Fitzpatrick, Fonseca, & McAllister, 2011). Most large mining companies had published sustainability reports (SRs) by the mid-2000s (Dashwood, 2012). Some companies, such as Noranda and Placer Dome, published their first SRs in 1998, and presented their performance against the three pillars – economic, social, and environmental – of sustainability (Lindsay, 2012). The disclosure of sustainable practices illustrates the acceptance of sustainable development as a “standard of appropriate behaviour” (Dashwood, 2012, p. 118) by some mining companies. Governments of industrialized countries and businesses accepted sustainable development as the norm by the mid-1990s (Dashwood, 2012). As well, CSR has been operationalized as a means to achieve greater sustainability in the mining industry (Sharma & Bhatnagar, 2015).

Mining, when done in the framework of sustainable development, is also known as ‘sustainable mining’ or ‘mining sustainable development,’ and it means that “mining activities should maximize social and economic benefits . . . [and] address negative

environmental and social impacts” (United Nations, 2012, p. 43). Additionally, Pring (1999) reflects that sustainable mining “encourages the preservation of all aspects of a country’s environmental, cultural and socio-economic heritage, including the rational use of non-renewable resources” (p.6). Taking these two definitions, a simple explanation of why mining must be discussed in terms of sustainability is to decrease its negative environmental and social impacts, while increasing economic and social benefits, in the hopes of achieving sustainability (or as sustainable as mining companies may become).

In terms of what constitutes a sustainable approach to mining, the Mining Sector Performance Report ([MSPR], 2016) outlines the necessary elements under the categories of society, environment, and the economy (the aforementioned three pillars) and details the mechanisms, players, and drivers necessary to accomplish sustainable mining. Examples can be seen in Figure 1: Elements of a Responsible and Sustainable Approach (MSPR, 2016), below. It is an informative way of illustrating what comprises a sustainable approach to mining. It may be used as a foundation for other industries, especially resource industries, that are attempting to be sustainable.

**Figure 1.**  
*Elements of a Responsible and Sustainable Approach*



Pring (1999) also describes outcomes of sustainable mining, but unlike the MSPR, Pring does not offer mechanisms to achieve these goals. Examples of Pring's (1999) goals include poverty alleviation and minimizing environmental impacts. While mining companies should aim to create as little environmental impacts as possible, it cannot be expected that mining companies should be in charge of poverty alleviation. This is in agreement with Harvey's (2014) argument that "extractive companies are not development NGOs" (p. 9). However, Pring's (1999) belief that mining companies should play a role in alleviating poverty is somewhat reflective of the roles of MNCs in sustainable development that was mentioned in the Brundtland Report (1987). Additionally, Hilson and Murck (2000) stress the importance of developing mine closure plans to ensure sustainability post-closure, as this is an imperative aspect of sustainable mining. These authors describe the importance of planning for positive environmental outcomes – such as adequate, clean water supplies and minimized environmental risks – and ensuring that socioeconomic outcomes of sustainable mining are also considered (e.g., the provision of training and skills to staff and assistance with job searching).

While sustainable mining aims to generate positive outcomes, some authors do not believe that this is possible. Instead, they believe that sustainable mining and CSR in the mining industry are no more than rhetoric, and mining companies are little changed even with these practices (Sharma & Bhatnagar, 2015; Whitmore, 2004). From the perspective of mining affected communities, Whitmore (2004) argues that sustainable mining does not address the concerns of these communities, but instead such mining is customized to fit the needs of the industry and the companies within it. To demonstrate, the author explains that the Mining, Minerals and Sustainable Development project was not inclusive because it did not include the participation of communities affected by mining, and thus did not account for the needs of these communities.



### **2.1.2 Corporate Social Responsibility (CSR)**

As discussed earlier, CSR falls under the sustainable development umbrella. However, it is very apparent that there is no consensus on one definition of CSR in the literature.

Therefore, for the purpose of this research, the definition of CSR that will be used is the one coined by Carroll (1979): “The social responsibility of business encompasses the economic, legal, ethical, and [philanthropic] expectations that society has of organizations at a given point in time” (p. 500). This definition highlights the following:

- The requirement of companies to maximize profits and abide by laws and regulations;
- The expectation of companies to carry out ethical business and go beyond these requirements, and the expectations to carry out voluntary behaviour that benefits all stakeholders and society (Carroll & Shabana, 2010), not just shareholders (Bansal, 2005; Carroll, 1979; Jamali & Mirshak, 2007).

Carroll and Shabana (2010) explain that this definition of CSR has been used successfully for research for more than 25 years. This therefore makes this definition suitable for use in this thesis. Given the fact that mining can have a range of negative impacts, CSR is meant to, and can actually bring about, positive outcomes in the areas where mining activities take place.

On the other hand, some communities can become too dependent on the CSR practices of companies. In these cases, when mine closures occur and companies leave areas of operation, communities risk not meeting their long-term needs (Sharma & Bhatnagar, 2015). Due to this, Sharma and Bhatnagar contend that the CSR practices of mining companies must tackle the often very long-term needs of communities, instead of creating dependency on these companies.

### **2.1.3 Motivations for Practicing Sustainable Development and CSR**

Given that CSR evolved from, and is operationalized through, sustainable development (Sharma & Bhatnagar, 2015), this section will explain the motivations for practicing the two. The motivations for practicing both sustainable development and CSR are the same.

Legitimacy theory contains multiple reasons why companies practice sustainable development. Suchman (1995) defines legitimacy as “a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions” (p. 574). Dashwood (2012) explains that the adoption of sustainable development by mining companies has become a global norm, as evidenced by the disclosure of CSR activities in SRs. Jenkins and Yakovleva (2006) and Jenkins (2004) believe this is due to legitimacy; companies are disclosing what they do to satisfy shareholder and community expectations. According to Dashwood (2012), a second example of the adoption of sustainable development in the mining industry was the creation of the position of vice president, sustainable development. She feels this reflects the importance of practicing sustainable development and the need to conform to industry and social expectations and norms.

The second reason why mining companies implemented sustainable development strategies has to do with reputation, and this, too, is encompassed within legitimacy, as companies are likely to abide by norms and expectations. Dashwood (2012) uses the occurrence of a tailings spill at Placer Dome’s Marcopper mine in the Philippines in 1996 to illustrate how environmental issues have impacted the reputation of companies and influenced the decision to adopt sustainable development practices. Following the Marcopper tailings spill, Placer Dome’s reputation was at stake. The company was heavily scrutinized by non-governmental organizations (NGOs) and the United Nations. The spill compelled Placer Dome to adopt a sustainable development plan promptly after the spill took place. This example demonstrates that preserving a company’s reputation is one of the motivations for adopting sustainable development, and this, in turn, contributes to transformed thinking within companies.

However, to date, a social issue has not been examined in terms of its effects on the sustainability or CSR positions of mining companies. This is one gap that this thesis fills, as it examines the impact of social issues on the CSR policies and practices of mining companies and the mining industry in general. It does so in addition to examining the effects of environmental issues.

Another reason for practicing CSR is to respond to external pressures (Dashwood, 2012). External pressures are also contained within the definition of legitimacy as being “desirable, proper, or appropriate” (Suchman, 1995, p. 574). Examples of external pressures include:

1. *Meeting standards and regulations.* There are a number of standards that companies can be required to meet, whether it is because they are members or signatories to such standards, or because of shareholder and stakeholder pressure. Depending on the comprehensiveness of the standard, Fombrun (2005) explains that companies can claim to be compliant with best practices, and the more comprehensive the standard, the smaller the reputational risk the company could face from outside parties such as NGOs. This leads to an additional motivation for practicing CSR, which is to build and maintain a positive reputation.
2. *Receipt of awards and prizes.* Fombrun (2005) explains that companies which receive recognition in the form of prizes and awards for their CSR practices receive positive media attention, and this contributes to their reputation.
3. *Gain legitimacy.* Jamali and Mirshak (2007) found that CSR is practiced at companies where the founders of the companies value CSR. Dashwood (2012) argues that when CSR values are similar to the interests of the company, CSR is practiced at those companies.
4. *CSR is a norm.* As discussed above, norms are a component of legitimacy (Suchman, 1995). Ruggie (1998) uses Krasner’s (1983) definition of norms: “standards of behaviour defined in terms of rights and obligations” (p. 97). CSR has become a way for companies to structure their approach to sustainable development, thus it has become a norm within the mining industry (Dashwood, 2012). Mining companies that practiced sustainable development early set the norms for the concept and became industry leaders (Dashwood, 2012).

To summarize, the motivations behind practicing CSR are for companies to increase and maintain legitimacy, and this includes: company response to external pressures such as

meeting standards; building and maintaining a positive reputation; gaining legitimacy; the values of CSR match with the values of companies; and because practicing CSR is a norm.

## **2.2 Theoretical Framing: Organizational Attention (OA)**

There are two main theories used to answer why mining companies practice CSR. The first is rational choice theory. Rational choice theory contends that company behaviour is based on logic and reason (Goode, 1997). The second theory is institutional theory, which asserts that, " macro-level factors such as policies, routines, and norms are the main factors shaping organizational behaviour" (Vashchenko, 2017, p. 397). Institutional theory uses these factors to explain general trends within industries. Although these theories have been useful to explain why mining companies practice sustainable development and CSR, they do not explain why companies identify certain issues as priorities and not others. OA can contribute to this gap.

OA is "the socially structured pattern of attention by decision makers within an organization" (Ocasio, 1997, p.188). Ocasio (1997) further defines attention as "to encompass the noticing, encoding, interpreting, and focusing of time and effort by organizational decision makers on both (a) issues . . . and (b) answers" (p. 189). Different definitions of organizations are provided in the literature, and Weick (1979) incorporates many of them. One is of "formal organization" as defined by Barnard (1938), in which the organization is a system of deliberate activities carried out by two or more people, where the people are not the focus, but rather the focus is the influence that they have and the actions they carry out (Weick, 1979, p. 94).

Ocasio (1997) explains that the basis of OA was established by the administrative behaviour work of Simon (1947) who examined how organizations structure their attention. This work emphasized that firms have limits when making decisions. Specifically, there are limited resources and inputs. Thus, decision makers must prioritize to use resources efficiently. There is also limited rationality when companies make decisions, because of the "limited attentional capability of humans" (Ocasio, 1997, p.187). These limits include the consequences of humans actions, how these consequences would be valued, and the extent of

available alternatives. Much of the OA literature is events-focused. As this thesis focuses on issues, the knowledge that is presented about events in the literature will be used to frame how issues are noticed, prioritized, and addressed in organizations.

Ocasio (1997) builds on Simon's (1947) work by taking into account knowledge based on social structures, environmental influences, and individual and social cognition. OA explains corporate behaviour in terms of how the attention of decision makers is distributed and regulated. Ocasio (1997) explains the three principles that this is based on:

1. *Focus of attention*. "What decision-makers do depends on what issues and answers they focus their attention on" (p. 188).
2. *Situated attention*. "What issues and answers decision-makers focus on depends on the particular context or situation they find themselves in" (p. 188).
3. *Structural distribution of attention*. "[The] particular context or situation decision-makers find themselves in, and how they attend to it, depends on how the firm's rules, resources, and social relationships regulate and control the distribution and allocation of issues, answers, and decision-makers into specific activities, communications, and procedures" (p. 188).

Given that OA is an attention-based theory, Ocasio (1997) explains that this type of theory cannot determine how decision-makers act based on their cognition and actions; instead, predictions can be made based on the environment of the company and the situations that its decision-makers face. Procedural and communication channels are necessary for processing issues and answers when making decisions. These include meetings, reports, and protocols within companies to encourage decision-makers to address certain issues. Their attributes affect "when, whether, and how decision-makers focus their attention, and how the attention of various decision-makers interacts with the channel" (Ocasio, 1997, p. 201). In the same paper, spatial, temporal, and procedural aspects are described as forming the organizational contexts that focus the decision-makers' attention. The spatial dimension controls the availability of issues and answers. Temporal factors regulate the response time of decision-

makers, while procedural aspects regulate the patterns and features that focus attention on the issues and answers.

While the concept of attention is a major factor in OA, it is used differently in meta-theories, and this has created a gap in information on attention, since findings are based on different definitions and constructs of attention (Ocasio, 2011). Hence, there are different types of attention. Those focused on behavioral theory are executive attention to decision making, and selective attention to organizational goals. Executive attention “is central to planning, problem solving, conflict resolution and decision making” and selective attention is defined as “the process by which individuals focus information processing on a specific set of sensory stimuli at a moment in time” (Ocasio, 2011, p. 1287). In organizations, individuals specialize their attention (March & Olsen, 1979). Framing this in the context of mining, mining companies have groups within their companies that specialize in certain areas. Depending on what decisions must be made, specific groups will concentrate their attention on certain areas and how much information individuals within those groups have.

As mentioned earlier, because decision makers and organizations have limited time, money and focus, they cannot attend to every issue. There are limits to what decision makers can focus on. So, what issues do they focus on? And why those issues and not others?

Hoffman and Occasio (2001) found that companies are more likely to address issues publicly when the company is held publicly accountable for issues, when the reputation of their company or industry is at stake, or when industry insiders examine how issues might affect the industry’s image. The issues that organizations do put attention on tend to be those that are significant to the organizations themselves (Lampel, Shamsie, & Shapira, 2009).

Decision-makers must interpret issues, and their understanding of issues influences how others understand the same issues. Therefore, decision-makers within mining companies influence other individuals within their companies, and when actions or behaviours must take place. Decision-makers influence others to act according to their view of action. This works up and down the corporate ladder of a company, presuming that perhaps individuals in these companies need to persuade individuals in both higher-level and lower-level positions as to

why certain behaviour must be performed. This factor is reflected in March and Olsen's (1979) work on the roles of individuals within organizations: where individuals are located in the organization structure controls access to information and their ability to make decisions. Weick (1979) explains that the organizational stimuli are latent stimuli until they get noticed. In the context of this thesis, mining companies may face many issues, but until they are noticed, individuals within these companies will not address them.

A positive aspect of OA is that it can be used to explain corporate behaviour as an alternative to other theories such as rational choice, game theory, and agency theory (Ocasio, 1997). Thus OA is helpful in understanding why companies identify certain issues and not others. It is presumed that issues that are identified will be handled, as long as they meet the criteria discussed above. This will happen if companies are held publicly accountable for issues, if the reputation of the industry is at risk, when industry insiders view issues as having the potential to have an effect on their image; and if the issues are of importance to the organizations.

### **2.2.1 Environmental Issues**

Given that environmental issues are broadly a type of social issue, the information provided in the subsequent section on social issues could also pertain to environmental issues. However, because not all social issues are environmental in nature, some refinement is necessary. For the purpose of this research, the definition of environmental issues that has been used is Bansal's (2003) definition, "Issues . . . expressed as influencing or being influenced by ecosystems" (p. 512).

When environmental issues are managed effectively, companies become more sustainable (Sonenshein, DeCelles, & Dutton, 2014). However, companies have not always appreciated the importance of managing environmental issues effectively. Sharma, Pablo, and Vredenburg (1999) reviewed a variety of cases from 1980 to 1993 and onward. They determined that managers in the oil and gas industry had a range of feelings towards the management of environmental issues over this time period. Their study showed that five companies had a lack of concern for the environment, while two companies thought that

focusing attention on these issues would be strategically important. The five companies that were indifferent to the environment saw such issues as being “potential hurdles and irritants to the smooth running of business” (Sharma et al., 1999, p. 94). The other two companies felt that they had a low risk of experiencing unexpected environmental accidents because they had many years of experience managing environmental issues. These varying attitudes illustrate why companies within the same industry can behave differently when managing environmental issues. Specifically, they demonstrate the degree of discretion. Sharma et al. (1999) define the degree of discretion as “the primary dimensions of responsiveness . . . reflected in the actions taken and in the extent to which firms [attempt] to take control in their dealings with . . . environmental [issues]” (p. 98). The concept is associated with whether companies respond to environmental issues because they must (i.e., economic or legal requirements), or because decision-makers choose to behave morally and develop strategies for the issues. “The greater degree of discretion, the more voluntary the response can be said to be” (Sharma et al., 1999, p. 99), and this reflects a range of strategy from reactive to proactive.

Reactive strategies include taking mandatory approaches to be compliant, such as following regulations, and strategies considered to be “accepted industry practice” (Sharma et al., 1999, p. 99). Proactive strategies create a competitive advantage for companies. These include contributing to nascent industry standards by becoming industry leaders, developing best practices, or becoming early adopters of “innovative” actions (p. 99). A company’s attitude towards the environment influences whether it will behave in a reactive or proactive manner. As observed by Sharma et al. (1999), managers who deemed environmental issues as threats were more likely to have reactive behaviours. Managers who perceive environmental issues as opportunities are likely to feel these issues are significant enough to be managed and adopt early, positive behaviour towards the management of environmental issues which becomes part of the company’s identity. Often this can lead to knowledge sharing amongst like-minded companies.

According to Sonenshein et al. (2014), climate change is “a key issue within the broader environmental issues space” (p.11). This is reflected in the CSR and SRs of some Canadian



multinational gold companies such as Goldcorp Inc. (Goldcorp), the aforementioned Barrick Gold Corporation (Barrick), Agnico Eagle Mines Limited (Agnico Eagle), and Yamana Gold Inc. (Yamana). Goldcorp's 2015 SR pairs energy management with climate change and indicates that its stakeholders view this issue as highly severe, and thus it has significant impact on its business. This management issue falls under the company's material issue of environmental stewardship. Likewise, Barrick couples energy use with climate change in its 2015 Responsibility Report and discusses decreasing GHG emissions and energy use as ways to manage climate change risks. Other reports from the mining industry reflect similar concerns, including Agnico Eagle's 2015 Sustainable Development Report and Yamana's 2015 Material Issues Report.

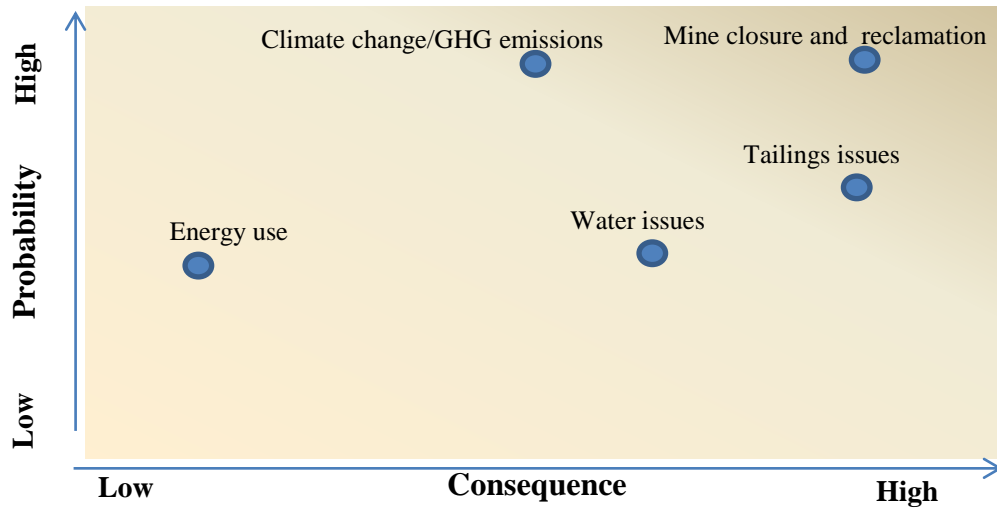
Environmental issues that may arise from mining activities include the following:

- Tailings failures (MAC, n.d.-b; Schoenberger, 2016)
- Lack of water management (Hilson & Murch, 2000; MAC, n.d.-b; Mudd, 2007)
- Lack of cyanide management (Mudd, 2007)
- Poor biodiversity and conservation practices (MAC, n.d.-b)
- GHG emissions (MAC, n.d.-b)
- Poor energy management (MAC, n.d.-b)
- Mine closure and reclamation (MAC, n.d.-b)

Figure 2 Risk Matrix: Top Five Environmental Risks illustrates the top five environmental risks that the mining industry faces. It illustrates the format of the Prospectors & Developers Association of Canada's (PDAC) e3 Plus risk matrix, which can be used to assess risks (PDAC, 2009).

**Figure 2.**

*Risk Matrix: Top Five Environmental Risks*



*Note.* Risks were compiled from Deloitte (2017) and the sample of SRs collected for this thesis. PDAC’s e3 Plus risk matrix (2009) is used.

MAC (2016) affirms that the industry has reduced its environmental impacts in recent decades through initiatives, government regulations, and company behaviour. Overall, current best practices are to mitigate identified issues, monitor them, and document said issues in SRs for stakeholders.

Unlike social issues, environmental ones have been “commonly regulated through environmental management plans and systems” (Franks & Vanclay, 2013, p. 40) for many years. Such plans have existed for longer than social plans, so there is a continuance of, and experience with, environmental issues management within the industry and specific companies (Franks & Vanclay, 2013).

An environmental historical milestone that set the vision for a sustainable Canadian mining industry is the WMI, introduced by MAC in 1992 (The Whitehorse Mining Initiative, 1994). The vision of the WMI was to set an initial outline of what a sustainable mining industry would look like by emphasizing the importance of environmental management. The WMI

will be discussed further in Section 3.2, Canadian Mining Industry. Current best practices for addressing environmental issues include becoming members of industry associations and voluntary initiatives that provide prescribed standards and methods to manage environmental issues. These will be discussed in Section 2.3 Risk Management.

### **2.2.2 Social Issues**

The literature frames social issues, or social issues management, within the concept of corporate social performance (CSP), and explains how social issues, corporate social responsiveness, and CSR interrelate within the sphere of CSP (Carroll, 1979; Hillman & Keim, 2001). Hillman and Keim (2001) state that there is no standard definition of CSP, but describe the concept as encompassing the management of stakeholders and social issues. Wood (1991) uses Frederick's (1978) definition of corporate social responsiveness as "the capacity of a corporation to respond to social pressures" (p. 150). Since social issues management falls under CSP in much of the literature, it can be assumed that social pressures in this definition can also imply social issues.

When preparing for CSP, Carroll (1979) argues that social issues should be carefully assessed when companies determine which ones to address. In terms of the relationship between social responsiveness and social issues, Wood (1991) describes issues management as one of three processes of social responsiveness; the other two are environmental assessment and stakeholder management. These are parallel to Ackerman's (1975) three behavioural traits of a responsive firm: the monitoring and assessment of environmental contexts; being attentive to stakeholder demands; and the creation of policies and plans to address changes (Wood, 1991).

Literature links social responsibility with issues management, so one way to define social issues is to link Dutton, Fahey, and Narayanan's (1983) definition of a strategic issue, "an emerging development . . . likely to have a significant impact on the organization's present or future strategies" (p. 308), to the conceptions of social responsibility. For example, Carroll (1979) describes the expectations that social responsibility will involve parameters that are economical, ethical, legal, and discretionary (philanthropic). A combination of Dutton et

al.'s (1983) definition of strategic issues and Carroll's (1979) definition of social responsibility is used to define social issues for this thesis: "Emerging development[s]" (Dutton et al., 1983, p. 308) in areas such as "economic, legal, ethical and [philanthropic] responsibilities" (Carroll, 1979, p. 499) "likely to have a significant impact on the organization's present or future strategies" (Dutton et al., 1983, p. 308).

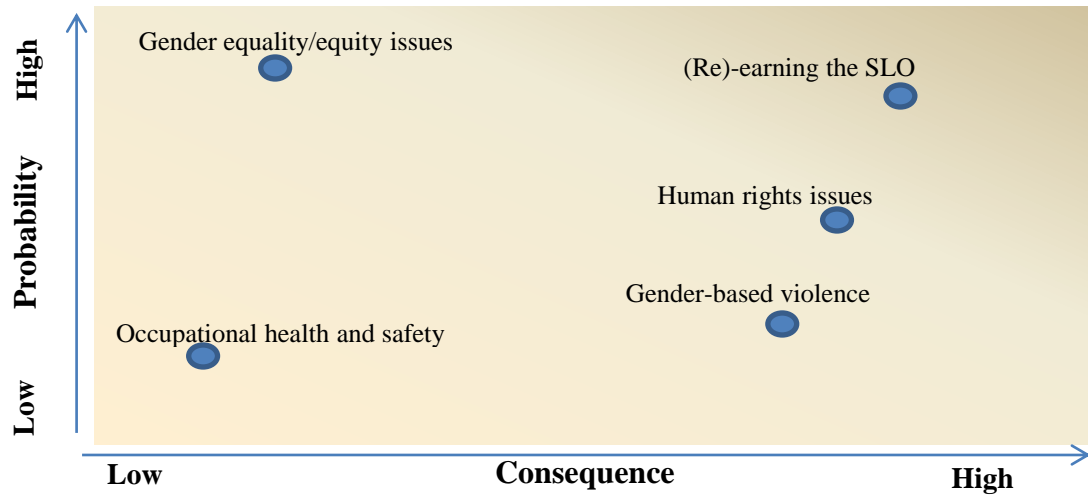
SRs reveal what companies consider to be material issues – both environmental and social – that are affecting or that could affect them. Environmental issues can be social issues, "as environmental disasters often trigger social disasters" (Schoenberger, 2016, p. 119). Social issues can be generalized or be location-specific. Examples of social issues include:

- Noise (Hilson & Murck, 2000)
- Traffic (Hilson & Murck, 2000)
- Resettling communities for mining projects (physically displacing communities) (Hart, n.d.)
- Relationships with communities in proximity to mining projects (Hart, n.d.)
- Unethical business and corruption (Hart, n.d.)
- Complaints and grievances (Franks & Vanclay, 2013)
- Non-local procurement and supply chains (Franks & Vanclay, 2013)
- Local and indigenous employment (Franks & Vanclay, 2013)
- Community health and safety (Franks & Vanclay, 2013)
- Cultural heritage that may affect human rights (Franks & Vanclay, 2013)
- Unresolved indigenous land claims (MSPR, 2016)

Figure 3 Risk Matrix: Top Four Social Risks Plus GBV illustrates the top four social risks that the mining industry faces. GBV has been included as it was the social issue analyzed for the CA.

**Figure 3.**

*Risk Matrix: Top Four Social Risks Plus GBV*



*Note.* Risks were compiled from Deloitte (2017) and the sample of SRs collected for this thesis. PDAC's e3 Plus risk matrix (2009) is used.

Franks and Vanclay (2013) argue that social issues have not received the same attention as environmental issues, and that the lack of a historical governance framework for managing social issues has left companies without the skills and capabilities required to meet community expectations. Being compliant with environmental regulations is not enough to meet communities' expectations (Prno, 2013). Franks and Vanclay (2013) explain that strategies such as social impact assessments (SIAs) and social impact management plans (SIMPs) can identify social issues, thereby permitting companies to address the issues and meet community expectations.

Franks and Vanclay (2013) describe an SIA as an "approach to sustainable development that is focused on prediction [and] harm minimization" (p. 40). SIAs can help companies identify relevant social issues and management strategies.

The development of SIMPs began in the early 2000s, and SIMPs are "a management tool for addressing social impacts during the implementation of planned interventions (projects, plans, policies and programs)" (Franks & Vanclay, 2013, p. 41). Similar to SIAs, Franks and

Vanclay believe that SIMPs could integrate CSR and community relations processes (i.e., involving community stakeholders) with monitoring, which would be an improvement from SIAs. However, SIMPs have not provided prescribed ways to address social issues when they occur.

Gaining an SLO has been developed as an additional method to fill the need to meet community expectations. SLO is a narrower concept that developed from CSR (The Fraser Institute, 2012). The term SLO was coined by a Canadian mining executive, Jim Cooney, in the late 1990s, and it is based on the notion that legal or government licenses are not the only type of licenses needed, and that social consent from communities is also required to operate (The Fraser Institute, 2012). SLO is generally understood to be at the local communities' and stakeholders' level of acceptance, legitimacy, and/or approval of industry activities and companies (Demuijnck & Fasterling, 2016; Hall, Lacey, Carr-Cornish, & Dowd, 2015; Harvey, 2014; Smits, Leeuwen, & Tatenhove, 2017; The Fraser Institute, 2012). So, in addition to engaging with stakeholders, companies must also listen, keep promises, manage expectations, hire and buy locally, educate, give back, and deal fairly to cultivate their SLO (Boutilier et al., 2012).

Development programs and social investment do not translate into gaining an SLO (Harvey, 2014). To gain an SLO, extractive companies should focus on gaining the trust of communities by working with local people on issues material to them and not focusing as much on international development agendas, as the primary business of extractive companies is not social development (Harvey, 2014). Simply giving money does not engender trust. Historically, though, this practice has been encouraged, as evident in older literature (Harvey, 2014).

## **2.3 Risk Management**

This section examines how the mining industry manages various social and environmental risks, and the associated uncertainties. Risks are defined as “unexpected events that can to some extent be described” (Jensen & Sublett, 2017, p. 21), and uncertainties are defined as “events that cannot be described because of lack of knowledge” (p. 21). This thesis uses the PDAC (2009) definition of risk management: “Risk management is the process of identifying

and analyzing risk and deciding on appropriate course of action to avoid or minimize the risks” (p. 59).

Given the significance of companies developing and maintaining community relations in operational areas, it is no surprise that community relations are widely discussed in the literature. Environmental issues are the most common cause for conflict (Davis & Franks, 2014; Franks et al., 2014). This is followed by the issues of the lack of opportunities for communities to provide consent for projects and community concerns regarding health and safety (Davis & Franks, 2014; Franks et al., 2014). Conflict is defined as a range “from low-level tension to escalated situations involving a complete relationship breakdown or violence” (Davis & Franks, 2014, p. 12). Davis and Franks (2014) argue that the costs incurred from conflicts are not combined into one total figure for senior-level management or board of directors. Franks et al. (2014) explain that some (not all) believe that these costs should be quantified financially, so senior management will change their behaviour and address the risk of community conflict. Davis and Franks (2014) provide an example of quantified costs that a major mining firm may incur in the scenario of a temporary mine closure due to community conflict. The authors suggest that a project worth US\$ 3 to 5 billion of capital expenditure would endure costs of approximately, “US\$ 20 million per week of delayed production” (p. 8), mostly attributable to lost sales. This highlights how imperative it is for firms to address issues, especially those involving community relations, in order to prevent mine delays and mine closures. The authors define costs as “any negative impacts on a company’s tangible or intangible assets” (p. 8).

One approach companies use for managing risk is hiring staff who “are committed to building the kinds of relationships with local communities that prevent and mitigate the risk of conflict” (Franks et al., 2014, p. 25). Two points arise from this. One, the type of engagement that occurs between companies and communities influences social risk levels, and two, the sensitivities of the staff who carry out this engagement also have an effect on the outcomes. Therefore, companies must hire staff – and not third parties – who can build sustainable relationships with the local communities to decrease the risk of conflict. Harvey (2014) argues that one way to educate staff is training; this is by providing courses that are

location-specific, and teach staff to behave respectfully with citizens and reflect local norms. Hall et al., (2014) affirm that “community relations in the mining industry have become increasingly recognized as a strategic part of managing risk and opportunity” (p. 303). Hence, maintaining community relations is one way companies manage risk.

Additionally, staff who perform sustainable engagement activities can help establish and maintain a company’s SLO. Laurence (2011) explains that the consequences of not having an SLO are operational opposition and corporate confrontation. The SLO is gained through quality stakeholder engagement, and therefore has an influence on social risk (Demuijnck & Fasterling, 2016). Boutilier et al. (2012) explain that building an SLO can manage and mitigate socio-political risks, and this type of risk has increased in the mining industry. Boutilier et al. (2012) define socio-political activity as “attempts to create, modify, or sustain any aspect of the distribution and enforcement of rights and responsibilities, and their associated costs and benefits, among network members” (p. 228). Given its importance, having an SLO has become part of best practices in the mining industry (Smits et al., 2017). Thus, an SLO is a risk mitigation tool that arises from communities’ trust towards mining companies. The more established the SLO, the more the risk decreases and the less chance that legal risks, reputational risks, violence against company employees, production delays, and any risks that companies face due to a lack of acceptance from stakeholders might occur (Demuijnck & Fasterling, 2016). Franks et al. (2014) stress that the money spent on social investment is different from that spent on risk mitigation, even though many extraction companies do not recognize this and use social and community investment as a conflict- and risk-mitigation tool. Companies’ processes and policies on community engagement are overlooked, and instead of building sustainable relationships with communities, companies simply report how much money is spent in a community.

Franks et al. (2014) argue that having governance that promotes “effective predictive assessment and management of social and environmental impacts” (p. 7580) will manage environmental and social risks, including conflict. Such regulations can arise from government requirements imposed on extractive companies. The authors also argue that a decrease in the supervision of environmental and social performance could lead to higher



industry costs through the increased risk of company-community conflict. Societal norms, agreed values, principles, and standards can also help establish and regulate companies.

Becoming a member of industry associations is an additional way that companies can manage risk. MAC describes itself as the “national voice of the Canadian mining industry” (MAC, n.d.-a, p. 1). MAC’s membership consists of most of Canada’s metal and mineral explorers and producers. MAC’s Towards Sustainable Mining (TSM) Framework, “a set of tools and indicators to drive performance and ensure that key mining risks are managed responsibly at our members’ facilities,” is the Association’s way of documenting best practices and providing industry norms to manage risks (MAC, n.d.-b, p. 1). While participation is mandatory for all members, the framework is only mandatory for the Canadian operations of those members.

Another industry association, PDAC, describes itself as “the leading voice of the mineral exploration and development community” (PDAC, 2017a, p. 1). Members of PDAC are provided with tools and resources, such as e3 Plus, “to help companies exploring for minerals improve their social, environmental, and health and safety performance” (PDAC, 2017b, p. 1). As well, the goal of e3 Plus is to “improve [companies’] performance and help [them] secure an [SLO]” (p. 1). As such, the resources provided by PDAC and MAC support the Association’s members as they manage their environmental, social, and health and safety risks. Within industry associations, members can also share knowledge on risk mitigation.

Integration of voluntary initiatives and standards into operational settings is another way for companies to manage their risk. Voluntary initiatives are defined as “Private or public efforts to improve corporate environmental behavior beyond existing legal requirement” (Paton, 2000, p. 32). While it is questionable whether this results in improvements on the ground (i.e., at the mine sites), joining can improve a company’s reputation (Schiavi & Solomon, 2007). According to Schiavi and Solomon (2007), for these initiatives to be effective, they must incorporate the following elements:

- Monitoring, which includes evaluation and verification, particularly by third parties if possible, to increase credibility

- Transparency, including disclosure, reporting, and public involvement
- Enforcement so that incentives or discipline can be given out
- Content, including clearly defined objectives, standards, and targets
- Compulsoriness, meaning that certain behavior should be expected

Positive outcomes of these initiatives include improved company reputation, potential to influence regulations, raising awareness on issues to companies, increasing company accountability, and the potential for the development of international institutions (Greene, Moffett, Meyer, & Middelkoop, 2002; Schiavi & Solomon, 2007).

There are a number of voluntary social and environmental industry initiatives in the mining industry, including: the Initiative for Responsible Mining Assurance; the Extractive Industry Transparency Initiative; the Global Reporting Initiative Mining Sector Supplement; the International Council on Mining and Metals Sustainable Development Framework; the International Finance Corporation's Performance Standards; the UN Global Compact; the International Cyanide Management Code; the Kimberly Process; and the UN Voluntary Principles on Security and Human Rights (Schiavi & Solomon, 2007; Voluntary responsible mining initiatives: A review, 2016).

Enterprise risk management (ERM) is a further way that companies practice risk management. Shown through the research of Arena, Arnaboldi, and Azzone, (2010) and explained by Bromiley, McShane, Nair, and Rustambekov (2015), companies practice ERM differently, which reflects the notion that there is not a single consensus on ERM. In spite of the lack of a standard definition of ERM, there are certain tacit assumptions of ERM. Bromiley et al. (2015) describe them, and the first assumption is that the management of a corporation's risks as a whole is more efficient than the management of the risks of parts (i.e., subsidiaries) of the corporation. This is reflective of the authors' idea that risks should be managed as a whole, instead of individually. However, Franke, Schlesinger, and Stapleton (2011) argue that risks can also be additive. As understood via the first assumption of ERM, risks interconnect, and that is why they could be managed as a whole; but when

risks are additive, they do not interconnect (The Pennsylvania State University, n.d.). The second assumption identified by Bromiley et al. (2015) is that every major decision made in a corporation involves risk management, since ERM encompasses traditional risks (i.e., accidents) as well as strategic risks (i.e., competitor behavior). Bromiley et al. (2015) contend that strategic risks are usually the largest that corporations face. The final assumption is that risks are both problems to solve and ways to gain a competitive advantage. This reflects the concept that risk management can be viewed as an opportunity as opposed to a problem or an issue.

The creation of incentives can also pressure companies to better manage risk. Incentives may be created by financial organizations or other stakeholders. In Peru, this is used by companies to manage social conflict (Franks et al., 2014). This is illustrated in companies where employee compensation, such as bonuses, are partially dependent on sustainability targets that include social, environmental, and health and safety performance. Examples of this practice are found in Yamana Gold's 2016 Material Issues Report and Eldorado Gold's 2015 Sustainability Report.

As there is a link between CSR and social issues management (as seen earlier in the social issues sub-section), companies have incorporated the management of issues through CSR, especially when CSR is practiced as a risk mitigation tool. Kytle and Ruggie (2005) explain that the link between CSR and corporate risk management can be seen in two ways. First, CSR can identify what a company's risks are, and second, it can provide information on how to respond to those risks. According to Kytle and Ruggie (2005), both of these can be done by effectively managing stakeholder relationships. This comports with what was discussed earlier, regarding how good-quality engagement with community stakeholders, which can be covered within CSR practices, can contribute to gaining an SLO. However, not all CSR activities may contribute to building an SLO. If there is community dissatisfaction due to the CSR practices of that company, the SLO can be revoked (The Frasier Institute, 2012). Hence, the SLO of a project does not remain stagnant, and not all CSR practices contribute to gaining an SLO.

## **Chapter 3**

### **Research Context**

#### **3.1 Global Mining Industry**

PricewaterhouseCoopers LLP (PwC, 2017a) reported that in 2016, the top 40 mining companies in the world had combined net profits of US\$20 billion, a stark contrast to the net aggregate loss of US\$28 billion in 2015. The global mining (production and exploration) industry is known to be cyclical on an approximately nine-year basis (Erten & Ocampo, 2012). Despite the occurrence of market volatilities, the industry is expected to continue to grow – albeit moderately – due to the following:

- Chinese economic-stimulus measures (Marshall, 2016)
- Higher commodity prices (PwC, 2017a)
- Reduced supply of commodities (Gleason, 2017)
- Greater investments in mining projects (PwC, 2017a)
- Need for strategic supply in order to be independent of China for rare earth elements and lithium (NRCan, 2016) and independent from Central Africa for cobalt (Kalenga, 2014)

The following major economic issues discussed by Marshall (2016) operate on cycles that are decades in duration and affect the growth of the industry:

- Increased demand for mineral and metal products due to rising incomes from industrialization and urbanization in developing countries, particularly in India
- Decreased supply of nickel, zinc, and cobalt needed for high technology and clean technology, which are increasing in demand
- Increased demand for materials for electric vehicles, which require much more copper than regular cars and lithium and vanadium for batteries

Apart from these economic factors that the industry faces, Table 1: PESTLE Analysis: Global Mining Industry illustrates political, economic, social, technological, legal, and environmental factors that may affect mining companies all over the world.

**Table 1.**

*PESTLE Analysis: Global Mining Industry*

<b>Political</b>	<ul style="list-style-type: none"> <li>●Resource nationalism (Deloitte, 2017; Mordant, 2017)</li> <li>●Geopolitical events (Ernst &amp; Young, 2016)</li> <li>●Possibility of war (World Gold Council, 2017c)</li> <li>●Bribery and related pay-offs (Davis &amp; Franks, 2014)</li> <li>●Corruption (Mordant, 2017)</li> <li>●Disruptive changes in governance systems in developing countries (Jamali &amp; Mirshak, 2007)</li> </ul>
<b>Economic</b>	<ul style="list-style-type: none"> <li>●Commodity prices (PwC, 2017a)</li> <li>●Supply and demand of minerals and metals (Deloitte, 2017)</li> <li>●Royalties (Mordant, 2017)</li> <li>●Taxes (Deloitte, 2017)</li> <li>●Production loss/gain (Deloitte, 2017)</li> <li>●Wages (Marshall, 2016)</li> <li>●Age of operations (Marshall, 2016)</li> <li>●Ability to optimize cash (Ernst &amp; Young, 2016)</li> <li>●Access to capital (Ernst &amp; Young, 2016)</li> </ul>
<b>Social</b>	<ul style="list-style-type: none"> <li>●Indigenous land ownership claims and treaty rights (Mining Sector Performance Report, 2016)</li> <li>●Legacy issues (Davis &amp; Franks, 2014)</li> <li>●Social activism (PwC, 2017a)</li> </ul> <p>See p. 20 for additional social issues that may arise from mining activities</p>
<b>Technological</b>	<ul style="list-style-type: none"> <li>●Automated equipment (PwC, 2017a)</li> <li>●Real-time operational data (PwC, 2017a)</li> </ul>

	<ul style="list-style-type: none"> <li>●Sensing technology (PwC, 2017a)</li> <li>●Cybersecurity (Ernst &amp; Young, 2016)</li> <li>●Innovation (Ernst &amp; Young, 2016)</li> <li>●Drone use (PwC, 2017a)</li> <li>●Robotics (PwC, 2017a)</li> <li>●Social media (Deloitte, 2017)</li> <li>●3-D Printing (Deloitte, 2017)</li> <li>●Artificial intelligence (Deloitte, 2017)</li> <li>●Big data (Deloitte, 2017)</li> <li>●Aging work force in countries (i.e., Australia, Canada, and the United States) driving technology development in the mining industry (Mining Industry Human Resources Council, 2017)</li> </ul>
<b>Legal</b>	<ul style="list-style-type: none"> <li>●Jurisdiction of host countries (Deloitte, 2017)</li> <li>●Regulations (Deloitte, 2017)</li> <li>●Permit – delays (Mordant, 2017)</li> <li>●Black market movements of high value commodities (Naylor, 2002)</li> </ul>
<b>Environmental</b>	<ul style="list-style-type: none"> <li>●Environmental activism (PwC, 2017b)</li> </ul> <p>See p. 17 for additional environmental factors that may arise from mining activities</p>

### 3.2 Canadian Mining Industry

In 2015, Canadian mining assets totaled \$259.1 billion, of which \$170.8 billion were assets owned abroad (NRCan, 2017b). In 2015, approximately \$92 billion, or 19.1 percent of Canadian exports, were from the mining industry (NRCan, 2016). The industry contributed 4 percent of the country's GDP, valued at up to \$79.2 billion (NRCan, 2016). In 2015, Canada's mineral production was valued at \$42.8 billion, of which \$22.5 billion of that was the value of metal production (NRCan, 2016). Not only is mining and exploration economically significant for the economy, but Toronto is described as "the global hub for

mining finance” (Marshall, 2016, p. 6), as 52 percent of the world’s mining and mineral exploration companies were listed on the Toronto Stock Exchange (TSX) and TSX Venture Exchange (NRCan, 2016). Canada produces over 60 commodities at 200 principal mines (NRCan, 2016). In regards to employment, in 2015, the mining industry employed approximately 563,000 Canadians, including approximately 12,700 Aboriginal people (Marshall, 2016; NRCan, 2016).

Despite the decline of over 50 percent year-over-year foreign direct investment in 2015 into Canada’s mining sector (Marshall, 2016), Canada was the top country for exploration as 13.5 percent of global exploration was done in the country in 2015 (NRCan, 2016). Reasons for the decline are fourfold. First, the regulatory processes new mines and major expansions have had to go through since 2012 have been disorganized between provincial and federal governments, causing delays and uncertainties for projects (Marshall, 2016). For example, Noront Resources Ltd. (Noront) discovered a major metal deposit in 2007 in The Ring of Fire area in northern Ontario (Scales, 2017). However, approval by the provincial government for construction of a road to gain access to the area did not happen until August 2017, and construction will not begin until 2019 (Benzie, 2017). This illustrates the delays that companies face, which involve the requirement to engage with local stakeholders to receive approval for projects. Second, unresolved Aboriginal land claims decrease available land use for mining and cause delays in potential projects. In this case, Noront has to consult with nine First Nations groups for approval and seek investments and approval from the government (Scales, 2017), adding significant complexity and associated delays in getting approval for their mine. Third, under federal law, Canadian national parks are protected from industrial development, making over 300,000 km<sup>3</sup> of Canadian land unavailable for mining activities (Mcnamee & Finkelstein, 2015) and thus reducing the areas available to exploit. Finally, community opposition to mining can place public pressure on companies and deter them from investing in Canada and other countries (“Canadian mining under fire at home and abroad,” 2013).

A total of 66 percent of Canadian mining assets (Marshall, 2016) are located abroad in more than 100 countries (NRCan, 2016). Through mechanisms such as employment,

procurement, philanthropy, taxes, and royalties, Canadian MNCs contribute to the local development of the communities in which they operate.

The Canadian mining industry has gone through the creation of two principal industry-wide initiatives that have impacted the industry both environmentally and socially: the WMI, initiated in 1992 (NRCan, 2017c), and e3 Plus, developed in 2009 (PDAC, 2017b). The purpose of both these initiatives were to broaden the scope of stakeholders from beyond just shareholders to which the industry would consider in their engagement in decision-making. The list of stakeholders identified is not static and new stakeholders can emerge from time to time and may vary across jurisdictions. Also, the balance of power that stakeholders have relative to one another can change pre-, during-, and post- issue in accordance with the costs borne by the stakeholder group as a result of the issue. Stakeholders include:

- Governments (NRCan, 2016 & NRCan, 2017c)
- Labour unions (NRCan, 2017c)
- Aboriginal peoples (NRCan, 2017c)
- Communities (NRCan, 2016)
- NGOs (NRCan, 2016)
- Civil society (NRCan, 2016)
- Shareholders (Jenkins & Yakovleva, 2006)

The WMI was developed as a framework to create a sustainable Canadian mining industry, specifically setting the vision “of a socially, economically and environmentally sustainable, and prosperous mining industry, underpinned by political and community consensus” (The Whitehorse Mining Initiative, 1994, p. 7). The idea of having this framework was presented by MAC at the 1992 Mines Ministers’ annual conference in Whitehorse, Yukon. Representatives from five sectors participated: the mining industry (represented by MAC); the government; labour unions; Aboriginal peoples; and the environmental community (NRCan, 2017c). Discussions began in 1993 and the Accord was adopted in 1994. It



consists of 16 principles and 65 goals that fall under the themes of (The Whitehorse Mining Initiative, 1994):

- Addressing business needs
- Maintaining a healthy environment
- Resolving land-use issues
- Ensuring the welfare of workers and communities
- Meeting Aboriginal concerns
- Improving decisions

Figure 4 summarizes the criteria and the associated details of the WMI Accord, which were phased into the TSM in 2010 (Fitzpatrick et al., 2011).

**Figure 4.**

*Whitehorse Mining Initiative*

Criteria	WMI Leadership Council Accord
<i>Policy objectives and strategy</i>	
Underlying problem	<ul style="list-style-type: none"> <li>• role of mining industry in sustainable development</li> </ul>
Policy preference	<ul style="list-style-type: none"> <li>• mix of regulated and non-regulated policies</li> </ul>
Main goals	<ul style="list-style-type: none"> <li>• elusive and numerous in connection with the following areas: <ul style="list-style-type: none"> <li>– addressing business needs</li> <li>– maintaining healthy environment</li> <li>– resolving land use issues</li> <li>– ensuring the welfare of workers and communities</li> <li>– meeting aboriginal concerns</li> <li>– improving decisions</li> </ul> </li> </ul>
Scale	<ul style="list-style-type: none"> <li>• Canadian territory</li> </ul>
<i>Decision-making and implementation</i>	
Stakeholder participation	<ul style="list-style-type: none"> <li>• involved mostly in the design</li> <li>• included mining ministers, leaders of aboriginal organizations, leaders of labour unions, leaders of environmental organizations, academics</li> </ul>
Operationalization	<ul style="list-style-type: none"> <li>• informed NRCan's Minerals and Metals Policy and MAC's policies</li> <li>• stimulated a number of follow-up provincial and specific associational consultative initiatives. New communications networks fostered. Arguably provided the foundation for international initiatives such as the MMSD onward</li> </ul>
Implementation Obligation	<ul style="list-style-type: none"> <li>• signatories to promote principles</li> </ul>
Monitoring and Verification	<ul style="list-style-type: none"> <li>• elusive and non-systematic monitoring without external verification</li> </ul>
Communication	<ul style="list-style-type: none"> <li>• annual progress reports with scant information</li> </ul>
Adaptive management	<ul style="list-style-type: none"> <li>• unclear</li> </ul>

*Note.* Reprinted from Fitzpatrick, P., Fonseca, A., & McAllister, M. L. (2011).

Following the development of the WMI, PDAC introduced e3 Plus in 2009 as the association's CSR best practices document; this arose from e3 (Excellence in Environmental Exploration), developed in 2003 (PDAC, 2017b). e3 Plus is, "an online information resource to help companies exploring for minerals improve their social, environmental, and health and safety performance," with the goal of "improv[ing] performance and help[ing] secure an [SLO]" (PDAC, 2017b, p. 1). e3 Plus consists of three toolkits – on social responsibility, environmental stewardship, and health and safety. Each contains information to help companies to be proactive in terms of recommended practices for activities that fall under the three categories. The WMI and e3 Plus are complementary, in that the WMI sets the national vision of having a sustainable mining industry, while e3 Plus provides the strategy for how to achieve that vision.

The Canadian mining industry has received both financial and political support from the Canadian government. The extractive industry (including oil and gas) is "the single greatest recipient of [financial] backing from Export Development Canada" (EDC; Keenan, 2010). Grayson (2006) views this financial support from EDC as being risky for the Canadian government, because if MNCs that receive this type of support are charged with taking part in certain negatively framed activities, such as supporting conflict, it may be assumed that the Canadian government is also involved in such activity. In terms of political support, the paper also provides examples where Canadian ambassadors in South American countries provided support in local newspapers for mining and Canadian MNCs operating in those regions.

Keenan (2010) portrays Canadian mining MNCs as being harmful, and the Canadian government's supporting role as being flawed, and this is similar to Grayson's (2006) point of view that the government cannot control Canadian MNCs' CSR practices abroad. This is reflected by companies not having to comply with the Canadian government's CSR framework and Canada's National Contact Point (NCP, Keenan, 2010). If a Canadian MNC does not follow the framework, they might not receive as much government support. However, the government is limited in what it can do to hold companies accountable for not

following such frameworks. The NCP is responsible for the following (Global Affairs Canada, 2016; Organisation for Economic Co-operation and Development, 2016):

- Promoting the Organization for Economic Co-operation and Development (OECD) Guidelines for Multinational Enterprises (hereinafter “the OECD Guidelines”)
- Offering a platform for discussion amongst stakeholders concerned with the implementation of the OECD Guidelines
- Taking part in resolving issues associated with the OECD Guidelines, including situations when they are not being followed

Grayson (2006) argues that an issue with the OECD Guidelines, as with other initiatives for MNCs, is that they “are primarily concerned with protecting investor rights and promoting financial disclosure rather than addressing human security issues” (p. 486). Additionally, Grayson partially addresses why the Canadian government is not doing enough to discipline corporations that act unethically by explaining that, if the government were to impose regulations on mining corporations operating abroad, then the whole industry would be punished because of a small number of companies that have been involved in matters of human rights.

Additionally, the Canadian government has not implemented regulations on CSR, because these regulations would not prevent dishonest companies from behaving unethically (Grayson, 2006). Grayson (2006) also argues that imposing stern restrictions would deter Canadian MNCs from operating abroad, which could create opportunities for non-Canadian companies based in other countries. Unfortunately, there are no recent papers that reflect the current government’s practices and regulations in regards to mining MNCs.

### **3.2.1 Canadian Gold Mining Industry**

In 2015, Canada was ranked as the sixth largest gold producer in the world (NRCan, 2016) and ranked eighth overall in gold reserves (2,400 tons). That same year, Canada exported \$18 billion worth of gold, and imported \$9.7 billion (NRCan, 2016). In 2016, gold was

Canada's highest valued commodity at \$8.3 billion (NRCan, 2017a). This was an 8.8 percent increase in value from 2015, and was due to the higher gold price in 2016 (NRCan, 2017a).

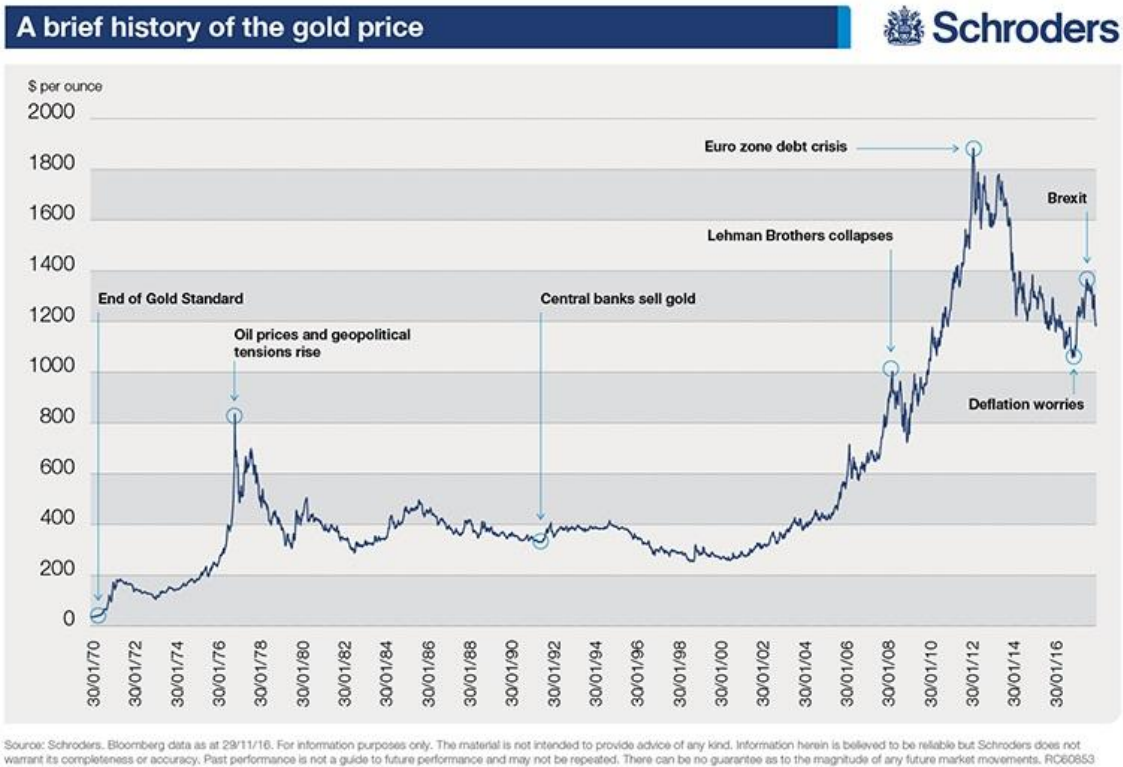
While the gold standard is no longer in effect, gold still has a number of uses, including for investment (wafers, bars, and coins), technology (including clean technology) and electronics (NRCan, 2016; World Gold Council, 2017c). As of June 30, 2017, jewelry accounted for 47 percent of the world's gold use, worth US\$3,570 billion (World Gold Council, 2017c).

In terms of supply, 75 percent of gold comes from mine production, while the remainder of the supply is recycled gold; of recycled gold, 90 percent comes from jewelry, and approximately 10 percent comes from technology (World Gold Council, 2017b). Gold supply is expected to gradually decrease in upcoming years (World Gold Council, 2017c) due to increased demand for the reasons mentioned earlier in this chapter.

Given the increase in gold price, signaling the end of a downturn of a cycle, there is a chance that investment in exploration for gold may increase (Marshall, 2016). Figure 5 illustrates the fluctuation of gold prices over the last 46 years and events that have caused drastic variability in price. In September 2017, the price of gold reached \$1,656 -US\$1,330- an ounce, a price not seen since August 2016 (World Gold Council, 2017c). This spike in price is attributed to mounting tensions on the Korean peninsula and the perceived unpredictable behaviour of the political leaders of North Korea and the United States (World Gold Council, 2017c).

**Figure 5.**

*A Brief History of the Gold Price*



*Note.* Reprinted from Brett, D. (2016). A short history of investing in gold – and what to expect for 2017.

## **Chapter 4**

### **Sample and Exploratory Mixed Methods**

#### **4.1 Sample and Population**

Marshall (1996) describes how “it is rarely practical, efficient or ethical to study whole populations” (p. 522). In this study, a sample was selected that was representative of a segment of the mining industry. One way to do this was to choose a commodity and focus on companies that produce that specific commodity. Canadian MNCs that produce gold were chosen to be the sample of this research because of the vast importance of the use of gold, the economic and social effects of producing it – especially for Canada and in the areas where Canadian MNCs operate abroad – and because gold is an easily identifiable subset of the mining industry.

Canadian senior and intermediate multinational gold companies were selected to be the target of the research sample. All of the companies are headquartered in Canada and have gold extraction operations outside of Canada, including South America, Africa, Europe, Asia, and the Southwest Pacific. Senior (major) companies “normally derive [their] operating income from mining or other business segments . . . rather than from the issuance of shares” (NRCan, 2016, p. iii). Senior-level miners are considered to be the largest mining companies and have larger market capitalizations, while intermediate (mid-tier) companies produce less (at least 200k ounces of gold a year) and have multiple operations (Hamilton, 2010). An additional group that was not analyzed for this study are junior companies. This type of company is “neither a producing company . . . nor the recipient of operating income from production or from some other business segments. Its principal business is exploration, for which it is raising funds through the issuance of treasury shares” (NRCan, 2016, p. iv).

The following steps took place to put together this sample. A document prepared by Scotia Capital Inc. on gold statistics, effective May 26, 2016, was received from an industry expert. The document separated the three levels of gold companies around the world. The senior and intermediate companies were noted, any that were not headquartered in Canada were removed; of the remaining, those that did not have international operations were also

removed. The remainder were 14 Canadian multinational gold companies, three senior and 11 intermediate, and these make up the sample of this thesis.

To answer the research question, *How do mining issues affect the CSR policies and practices of Canadian multinational gold companies?*, this study followed an exploratory sequential mixed-methods design. Creswell (2014) defines the exploratory sequential mixed-methods design as one “in which the researcher first begins by exploring with qualitative data and analysis and then uses the findings in a second quantitative phase” (p. 226). The purpose of this method is to improve measurements with certain sample populations, as well as “to see if data from a few individuals (in qualitative phase) can be generalized to a large sample of a population (in quantitative phase)” (p. 226). This is reflective of this research in the following ways. Five semi-structured interviews were conducted in the first phase of data collection; there were participants from four companies that are part of the sample population of 14 companies, and one participant from an industry association. As a reminder, the sample population is 14 senior and intermediate Canadian multinational gold companies. A CA was carried out in the second phase of the design, and this involved analyzing the CSR reports, SRs, and annual reports (ARs) of all 14 companies in the sample. In addition to ultimately answering the research question, completing the CA meant that the participants’ responses from the five interviews could be compared to the CA, and it could be deduced whether their responses were reflective of the outcomes of the CA. The CA was able to show whether the data from the interviews could be generalized to all 14 companies. This research used both qualitative and quantitative research methods through the use of semi-structured interviews and a CA, reflecting the mixed-methods aspect. The semi-structured interviews were conducted first and then analyzed. The information found from the interviews was used to build into the quantitative phase, as findings from the interviews were a factor in selecting which issues to use to develop constructs for the CA.

An immense benefit of using a mixed-methods research approach is that the use of more than one research method enables the triangulation of data. Triangulation is defined as “cross-checking of data and interpretations through the use of multiple data sources and/or data collection techniques” (Guba & Lincoln, 1985, p. 109). An additional advantage to



carrying out a mixed-methods approach is that the researcher can assess the content validity of the results. Holsti (1969) explains that content validity involves having credible results which are consistent with other information on the topic being studied. In the case of this research, using multiple research methods allowed for the comparison of the results from the CA with the data from the interviews; if the results from the CA support the interviews, it is presumed that the findings from the research are valid.

However, one limitation of this mixed-methods research approach is the challenge of concentrating on suitable qualitative findings to use for the quantitative phase of data collection (Creswell, 2014). This is especially daunting since the qualitative findings are used as the basis for the quantitative method. This challenge was overcome by using the themes generated from the interviews when developing the constructs for the CA. Specifically, mining issues that came up during interviews were grouped into social and environmental issues (a major theme of the CA). These themes emerged from coding the interview transcripts. Seven predetermined interview questions, shown in Appendix A, were used as a guide. It is acknowledged that what was deemed important from the participant responses may be deemed unimportant by other researchers, but for the purpose of this research, the interview questions sufficed in answering the research question of, *How do mining issues affect the CSR practices of Canadian multinational gold companies?* Using this process validated that the information found from the interviews was suitable to use in determining the constructs that should be used for the CA.

As this research was an exploratory mixed-methods design, an inductive approach was used. Themes were developed from the grouping of knowledge and data into more conceptual categories. The steps that were taken are reflective of what Creswell (2014) describes as being inductive logic. For instance, information was gathered from the literature and corporate communications, and then semi-structured interviews were conducted. Data found from the literature and data from the interviews were analyzed and then grouped into certain categories which generated themes.

## **4.2 Semi-structured Interviews**

Semi-structured interviews were conducted in the first phase of data collection with ethics clearance provided through the Office of Research Ethics at the University of Waterloo (ORE # 21477). Longhurst (2016) defines a semi-structured interview as “a verbal interchange where one person, the interviewer, attempts to elicit information from another person by asking questions” (p. 143). One aspect that sets semi-structured interviews apart from other methods, particularly structured interviews, is that even though interview questions are designed in advance, interviews are not restricted to discussion solely on those questions. In terms of the style, semi-structured interviews are “conversational and informal” (p.145). Similar to the questions, responses can be open and are not limited to yes or no answers. The lack of rigidity in semi-structured interviews allows the interviewees to delve into issues that are significant to them. This type of interview also allows the interviewer to probe, and both the participant and interviewer can explore certain aspects of responses which may provide more valuable information. The interviewer may ask follow-up questions and thereby receive clarification. The use of probing is one way to assure that data from interviews is reliable (Louise Barriball & While, 1994). One limitation of semi-structured interviews is how participants respond to questions. Specifically, if responses are not thorough enough or lack clarity, the quality of responses can be affected; this, in turn, affects the validity and reliability of data. Louise Barriball and While (1994) acknowledge that interviewers do not always have full control, and are not able to plan how interviews will take place, and this can be a limitation of carrying out interviews.

The interview procedure involved the following process. Individuals in senior-level positions in areas such as sustainability, CSR, health and safety, and the environment, including chief sustainability officers, vice presidents of sustainability/CSR/health and safety, and directors and/or managers in these areas at the 14 companies in the sample were selected as potential participants to be interviewed. These individuals were chosen due to their vast experience in the industry; also, given these individuals were in such high-level positions, it was presumed that they would have a great understanding and awareness of the CSR practices and policies, and the issues surrounding CSR, at their companies. Company

websites and LinkedIn were used to find out who held these positions at each of the 14 companies. LinkedIn was used for the initial communication. An industry expert sent connection requests to the potential participants who had LinkedIn; 13 out of the 14 potential participants had LinkedIn. For the one potential participant who did not have LinkedIn, an email was sent with an information letter about the research, and this included an invitation to participate in the interview. The participants who accepted the LinkedIn connection request subsequently received a LinkedIn message asking if they would like to receive more information on the study. Because none of the potential participants responded to the LinkedIn message, emails with the information letter and invitation to participate were sent to them. Four individuals agreed to participate. In addition, two individuals who work at industry associations in CSR were emailed with the information letter and invitation to participate in an interview; one agreed to participate. Despite this individual not working at a mining company, information was gained at the industry level, and it was used to validate responses received from the other four individuals at the firm level. Thus, there were five formal, semi-structured interviews. Four of the participants were individuals at the company level, and one was at the industry level. (Later in the research process, there was also one follow-up interview with an individual at the company level; this interview was conducted in person and was relatively informal. It took place after the semi-structured interviews had been completed and analyzed. The follow-up interview was used as contextual data for the discussion and conclusions of this thesis).

Prior to the five semi-structured interviews, a spreadsheet was created with information on each participant. Web-based information was found through Google searches and the LinkedIn profiles of the participants. The participants received, signed, and sent back consent forms outlining the ethics clearance of the study, as well as the anonymity of participant responses. Two of the semi-structured interviews took place in person and three were done over the telephone. These five interviews were between 23 minutes and one hour and four minutes in length. They were recorded on Windows Sound Recorder and then transferred into the NVivo software, a computer data analysis program, where they were transcribed. Transcripts were analyzed following the transcription. They were read over and

then coded according to the seven predetermined interview questions that were posed to each participant (again, at Appendix A). As per Corbin and Strauss (1990)'s work on grounded theory and the process that should be taken when developing categories, the analysis of interviews involved developing categories and grouping responses that were related to each other under more abstract categories. Responses were compared to emphasize similarities and differences between participants. Therefore, codes emerged from participant data (Creswell, 2014). A codebook was developed, and it included where participants fell under each category for each question. Coding of the transcripts was done in NVivo, which enabled the coding process to be done in a more efficient manner than coding by hand (Creswell, 2014).

#### **4.2.1 Motivation for Empirical Testing**

From the five interviews, it was found that environmental issues can be easily quantifiable in terms of measurement. The responses to these issues are also clearly prescribed, as reflected in Participant E's sentiments: "Environmental issues are easier to measure. . . . Our environmental performance is quite clearly prescribed." Hence, when environmental issues occur and are dealt with, for the most part, they do not linger. However, social issues are not as easily quantifiable and are not as simple in terms of management. Furthermore, once they have been dealt with, their effects remain: "Events in the social arena tend to have sort of a longer-lasting life. I am asked far more often about events, social issues, that occurred in the past" (Participant C). These lingering effects contribute to the negative perception of the mining industry. Given the responses from the five semi-structured interviews, the hypothesis of this research is that there is a difference in the identification and response to environmental and social issues. As such, the CA sought to test if this difference is present by examining the word frequencies in the corporate reports a year prior to the occurrence of issues, the Mount Polley tailings spill and the GBV allegations Barrick faced, and a year after the occurrence.

### 4.3 Content Analysis

The second method that was used in the research design was quantitative, a CA. A CA is “a research method that uses a set of procedures to classify or otherwise categorize communication allowing inferences about context” (Short, Brober, Coglisier, & Brigham, 2010, p. 321). Morris (1994) specifies that context includes “the intentions, attitudes, and values of individuals” (p. 903). This research method “involves coding words, phrases, and sentences against particular schema of interest” (Bowman, 1984, p. 61). Through a CA, this research analyzed the word frequency of two constructs, *tailings spill* and *gender-based violence (GBV)* in the SRs and ARs of the 14 senior and intermediate Canadian multinational gold companies that made up the sample. The CA was carried out through CATScanner, a computer-aided text analysis (CATA) program.

CATA usually examines content through word frequency (Short et al., 2010). Given that this research measured the word frequency of two constructs, the use of CATA was suitable. Analyzing the reports through the use of CATScanner ensured that the results from the CA would be reliable and accurate, particularly more so than human coding (Morris, 1994; Short et al., 2010; Weber, 1984). The convenience of CATA’s ability to process text samples quickly and accurately have made this tool appealing to use (Short et. al., 2010).

There are various purposes to using a CA, including: to understand the communicator (Holsti, 1969); identify and explain trends; and to understand the focus of an individual, group, or institution (Weber, 1990). This research is focused on the latter two. In regards to identifying trends, the use of a CA revealed whether the occurrence of particular issues, the Mount Polley tailings spill and allegations of GBV Barrick faced (which will be discussed in the sections on Mount Polley and GBV, below), had an impact on the mining industry, specifically on the sample. Thus, the use of a CA would determine whether the frequency of words related to these two issues increased a year after they occurred. These two issues were chosen to build the constructs that would be analyzed in the CA through the following process: an initial review of company communications and literature, such as the most recent SRs as of September 2, 2016 of the sample; consultation with an industry expert; a scan of media articles on the mining industry from the last 10 years; and results from the five semi-

structured interviews. As discussed earlier, it was found from the semi-structured interviews that some companies tend to treat environmental issues differently than social issues. For this reason, and after discussion with an industry expert, it was decided that two separate issues should be analyzed through the CA – one environmental and one social.

The steps that were taken to set up the CA follow Short et. al's (2010) suggestions to ensure construct validity when carrying out a CA through the use of CATA. The results from analyzing the semi-structured interviews set up and provided the basis for the CA. Given that the research question posed, *How do mining issues affect the CSR policies and practices of Canadian multinational gold companies?*, it was logical to analyze this affect through the SRs of these companies, since it is through this means of communication that companies present their CSR practices. However, not all companies in the sample published SRs in the years that were analyzed, and therefore it was important to include the ARs and annual information forms (when ARs could not be located) of these same companies. This ensured that a communication piece from each firm could be analyzed. ARs include the disclosure of information on the values, beliefs, and ideologies of companies (Short et al., 2010). Therefore, it is fair to assume that if the issues that were analyzed through the CA were significant to companies, information regarding these issues would be included in ARs. However, because ARs are written primarily for shareholders, certain issues that have to do with CSR practices are not emphasized in these reports (Bowman, 1984). Nonetheless, Bowman also contends that a CA of ARs can be advantageous in order to become familiar with a company's strategy and risk management. It is presumed that having an SR for a particular year or years was probably not a main concern for all the companies, which highlights their outlook on the lack of importance of reporting on their CSR practices. As it was found that environmental and social issues were discussed and treated separately, two issues, one environmental and one social, were analyzed separately. The two issues that were selected to be analyzed were the Mount Polley tailings spill for the environmental and the GBV allegations that Barrick faced in Papua New Guinea for the social issue. From these issues, two constructs were created: *tailings spill* and *GBV*. MACs (2011) definition of tailings spill was used: "The leak of material remaining after valuable minerals have been

extracted from mined ore and are typically stored or impounded in a managed tailings facility or placed as engineered fill” (p. 28). The definition of GBV that was used was violence “that result[s] in, or is likely to result in, physical, sexual or psychological harm or suffering to women, including threats of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or in private life” (United Nations, 1993, p. 1). Both definitions of the constructs of interest came from existing literature, which Short et al. (2009) suggest to use, as opposed to creating one’s own definitions of constructs.

For each of the two constructs, a word list that would be run in the CA had to be developed. Word lists had to be validated through a multi-step process (Short et al., 2010). Words related to the constructs, synonyms, and variations of the construct were included in the word lists (Short et al., 2010). Initial lists that were created were deductive; words on these lists came from an understanding of the two dimensions from common knowledge and a review of literature, including academic literature and the most recent SRs of the sample as of September 2, 2016. Inductive lists were then created through the following steps: In Excel, all the reports that were to be run in the CA were listed; there were 95 in total. Through the random function in Excel, a random sample of 10 reports was developed. These 10 reports were converted into text files and then run through CATScanner to identify additional words related to the two dimensions that were not on the deductive word lists. The 95 reports were made up of the following: 56 ARs in total, 14 ARs for each year (2010, 2012, 2013, and 2014); 39 SRs in total – nine from 2010, 11 from 2012, nine from 2013 and 10 from 2015. The random sample consisted of three ARs from 2010, one AR from 2012, two ARs from 2013, one SR from 2012, two SRs from 2013, and one SR from 2015. Through a CA of the 10 sample reports, word frequency lists were generated. These words were reviewed, and any that were related to the two constructs that were not already on the deductive lists made up the inductive word lists (Neuendorf, 2016; Short et. al, 2010). An inductive word list of nine words for tailings spill was developed and an inductive word list of six words for GBV was developed. The deductive and inductive word lists were put together to form one list for each dimension. These lists became the initial word lists seen in Table 2.

**Table 2.***Version 1: Wordlists for the Constructs*

Tailings Spill	Gender-based violence
Acid mine drainage	Abuse
Cleanup	Allegations
Dam	Allegedly
Discharge	Assault
Discharged	Claims
Disaster	Crime
Effluent	Criminal
Failure	Ethics
Hazardous	Females
Mine Dumps	Gender
Mine Waste	Grievance
Mount Polley	Harassment
Residual Waste	Harm
Sludge	Human Rights
Spill	Illegal
Tailings	Rape
Turbidites	Unethical
Waste	Violence
Waste Water	Women

As these word lists were composed by the researcher, the validity of the words had to be ensured before running the CA. To ensure the validity of the words, content experts assessed the words that made up the word lists, as per Short et al.'s (2010) recommendation. The content experts - also known as judges and raters - consulted for this study were three individuals who have had experience working and/or studying in the mining industry. In



addition to receiving Version A of the word lists, all three raters also received a letter with instructions (see Appendix B) explaining how to fill in the spreadsheet to show which words they felt should and should not be included in the final word lists. Raters were asked to put a 1 beside words they agreed should be on the word lists and a 0 beside the words they did not think were appropriate for the lists.

The second part to ensuring the validity of the dictionaries was to assess the inter-rater reliability rate (IRR) of the three judges' decisions. The IRR assesses general agreement of the words chosen in the word lists (Short et al., 2010). Holsti's (1969) calculation for assessing the IRR was used:  $PAO = 2A / (n_a + nb)$  (Short et al., 2010). However, because three raters were used, Holsti's calculation was adapted to having three raters instead of two:  $PAO = 3A / (n_a + nb + nc)$ . The spreadsheet used to calculate the IRR had Holsti's calculation embedded within it, thus the calculation was carried out automatically on the spreadsheet as opposed to by hand. Results from the calculation showed that the IRR for the tailings spill word list was 0.42 and the IRR for the GBV word list was 0.47.

According to Short et al. (2010), to be valid, the IRR should be at least 0.7. Given the low IRR scores, the word lists for both constructs had to be altered. Two of the judges were queried as to why they gave 0 for certain words, so that a better understanding of how they were thinking was gained. To alter the word lists, suggested words from the judges were added and words that all 3 judges agreed did not match the construct were removed. These refined word lists (Table 3, Version 2: Wordlists) were sent back to all three judges to go through the same process of reviewing the words. The new IRR for the tailings spill word list was 0.86, and the new IRR for the GBV word list was 0.60. Since the IRR for the tailings spill was over 0.7, Version 2 would be used for the CA. However, the IRR of Version 2 for the GBV word list remained low, and thus the process of refining the word list continued. This time, none of the raters suggested any words to be added, and because one of the judges gave 1s to all the words (i.e., agreed that all the words should be included on the list), there was no consensus on any word that should be removed; thus, words that the two other judges agreed should not be part of the word lists were removed. One of the

judges was queried again to understand why they thought certain words should not be included in the word list.

**Table 3.**

*Version 2: Wordlists*

Tailings Spill	Gender-Based Violence
Acid mine drainage	Abuse
Berm	Allegations
Breach	Allegedly
Dam	Assault
Discharge	Claims
Discharged	Crime
Disaster	Criminal
Effluent	Females
Engineering	Gender
Failure	Grievance
Hazardous	Harassment
Mine Dumps	Harm
Mine Waste	Human Rights
Mount Polley Disaster	Illegal
Residual Waste	Rape
Sludge	Security
Spill	Sexual
Tailings	Unethical
Tailings Pond	Violence
Waste	Women
Waste Water	

Once the word list was refined again, it (Table 4: Version 3: Wordlist for GBV) was sent to all three judges to go over the same process. Note that only the GBV wordlist was resent, since Version 2 of the tailings spill wordlist got a high enough IRR score. Version 3 of the GBV wordlist had an IRR of 0.71, high enough to use it. Given the cyclical process of refining the word lists, this part of setting up for the CA proved to be an iterative process. Both word lists were shown to be valid through the process of developing inductive and deductive word lists, obtaining input from content experts, and achieving high enough IRR scores between the three experts; therefore, the CA could be run.

**Table 4.**

*Version 3: Wordlist for GBV*

Gender-Based Violence
Abuse
Allegations
Assault
Claims
Crime
Criminal
Females
Gender
Grievance
Harassment
Harm
Human Rights
Illegal
Rape
Sexual
Violence
Women

CATScanner was used to run the CA. The use of CATScanner requires that documents be in text format. Thus, all of the reports, which were gathered from company websites, were converted from PDFs to text files using an online file converter. For years where both an SR and AR were available, both were collected and combined into one document by copying and pasting one report onto the other, so that no words would be removed through the process. The wordlists were input into CATScanner. As there were two different constructs (*tailings spill* and *GBV*), two separate CAs were run. Reports from 2013 and 2015 were run against the word list for *tailings spill*, and reports from 2010 and 2012 were run against the word list for *GBV*. Four lists of word frequencies were generated from the CA; there were two for each construct, one list for the word frequencies the year before the issue occurred and one list with the word frequencies a year after the issues took place. Lists are illustrated and explained in Tables 8 and 9 in Section 5.2, Data and Analysis From Content Analysis.

The method of carrying out the CA was the same for both constructs, but some details regarding the reports are slightly different. Therefore, the steps that were taken for both will be described separately. The construct of *tailings spill* was based on the tailings spill that occurred at the Mount Polley mine in British Columbia (B.C.) on August 14, 2014 (Imperial Metal Corporation [Imperial], 2017). As the issue took place in 2014, reports from the year before (2013) and the year after (2015) went through the CATScanner. For the year 2013, 14 reports went through, since there were 14 companies in the sample and all had ARs. Out of those 14 reports, nine were collapsed, so nine companies had SRs in addition to ARs that year. For 2015, 11 companies out of the 14 had SRs, thus two reports were combined into one for 11 companies. Reports were run separately by company and by year to see whether there would be an increase in the frequency of words from the wordlist. Thus, each firm had two reports run, one from 2013 and one from 2015; as a result, there were 14 word frequency numbers for 2013 and 14 for 2015, allowing for the observation of whether there was an increase of words in 2015 (the year after the Mount Polley tailings spill) from 2013 (a year before the spill).

The construct of *GBV* was based on the GBV allegations that Barrick faced at its Porgera Mine in Papua New Guinea in 2011 (Barrick, 2011). Therefore, reports from the year before

(2010) and the year after (2012) went through a CA. In 2010, nine out of the 14 companies had SRs, thus two reports were combined into one for nine companies. In 2012, 12 out of the 14 companies had SRs. Once again, there were 14 word frequency numbers for each of the years 2010 and 2012.

#### **4.3.1 Selecting Issues**

In order to select which issues to use, a variety of methods were used. When an initial review of company SRs took place, different issues found in the reports were recorded and mapped out under different categories. The media was then scanned, and particular attention was paid to articles on mining issues that took place in the last 10 years. *The Globe and Mail* was the main media source that was scanned, given its reliability as a Canadian news source. Different issues mentioned during the five semi-structured interviews were also noted. As the interviews suggested that companies treat environmental issues differently from social issues, one environmental issue and one social issue was selected. Discussion with an industry expert was combined with information found from the SRs, media, and interviews, and the Mount Polley tailings spill was selected as the environmental issue to analyze. One point to note is that all of the initial five participants interviewed as well as the participant interviewed in the follow-up interview mentioned Mount Polley. Selecting a social issue was not as straightforward as selecting the environmental issue. Unlike Mount Polley, no one social issue was mentioned by all of the interview participants. Given its severity, complexity, and strong link to human rights, Barrick's response to allegations of GBV that occurred on its Porgera mine site was eventually selected as the social issue to be analyzed.

The following section will provide background information on the two issues that were the basis of the two constructs that were analyzed through the CA. Information that will be discussed includes details of the issues, information on the companies that own and operate the mines where these issues occurred, and what took place following the issues.

##### **4.3.1.1 Mount Polley**

Approximately 75 percent of mining-related environmental catastrophes are tailings dam failures (Schoenberger, 2016). The environmental issue that was analyzed in this thesis is the

tailings dam breach that occurred on August 4, 2014 at the Mount Polley mine in South-Central B.C. (Imperial, 2017).

The Mount Polley mine is an open pit copper/gold mine owned by Mount Polley Mining Corporation (MPMC), a subsidiary of Imperial. Operations at Mount Polley began in 1997 and are expected to last until 2026 (Imperial, 2017).

The ultimate cause of the tailings failure was poor design of the tailings storage facility (TSF) and the overloading of its capacity (Morgenstern, Vick, & Zyl, 2015). The design of the TSF overlooked the strength of a glacio-lacustrine layer (the sediments “associated with or deposited in a glacial lake”) where the breach took place (p. 144). This layer was found in the dam foundation beneath the part of the TSF that breached (Imperial, 2016). It was also found that the TSF was overloaded, and this contributed to the dam’s failure (Morgenstern et al., 2015). The breach caused approximately 17 million cubic meters of water and 8 million cubic meters of tailings to flow into Polley Lake, impacting Hazeltine Creek and Quesnel Lake (Province of B.C., 2016).

The significance of the Mount Polley tailings failure on Imperial is well documented in the company’s 2014 AR (Imperial, 2015). The company experienced a net loss of \$37.3 million in 2014, a stark difference to the net income of \$41 million made in 2013. In the year ending December 31, 2014, Imperial received \$14 million in insurance recoveries to offset expenses incurred by the tailings dam breach. The expenses for the response and recovery, initial rehabilitation and restoration, and remediation expected within the subsequent 12 months of the AR being published was \$67.4 million (Imperial, 2015). In 2014, Imperial had income from operations of \$40.2 million. In 2015, Imperial had a net loss of \$97 million of which \$11.5 million is attributed to mine loss operations (Imperial, 2016).

Results of an environmental impact assessment found that in the short-term following the issue, there were physical (such as tailings deposits into soil and water bodies), chemical (including higher concentrations of copper in soil and water quality), and biological (such as probable displacement of fish or fish mortality) impacts (Golder Associates Ltd., 2015).

Table 5 PESTLE Analysis: Imperial Metals – Post Mount Polley highlights the factors that Imperial faced and may yet face following the incident.

Partial operations at Mount Polley resumed on August 5, 2015 and normal operations resumed on June 23, 2016 (Imperial, 2017). As per the B.C. Ministry of Environment’s Pollution Abatement Order 107461, Imperial must report its rehabilitation progress and activities monthly to the Ministry of Environment, as well as to its stakeholders (MPMC, 2017). Imperial has not been charged with wrongdoing or fined. In October 2016, MiningWatch Canada filed a private prosecution against MPMC and the B.C. government for violating sections of the federal Fisheries Act, which includes the damage or devastation of fish habitats (MiningWatch Canada, 2017). However, the case was dismissed in the spring of 2017 (Linnitt, 2017).

**Table 5.**

*PESTLE Analysis: Imperial Metals – Post Mount Polley Tailings Spill*

<b>Political</b>	<ul style="list-style-type: none"> <li>●Resumption of operations dependent on permits and authorizations (Imperial, 2015; Imperial, 2017)</li> <li>●More documentation needed for reporting to government (MPMC, 2017)</li> <li>●Reviews from local, provincial, and federal government agencies (Imperial, 2017)</li> </ul>
<b>Economic</b>	<ul style="list-style-type: none"> <li>●Financial loss from suspension of operations and expenses incurred for remediation (Imperial, 2015; Imperial, 2016; Imperial, 2017)</li> <li>●Share price drop (Imperial, 2015)</li> <li>●Cost of rehabilitation and restoration of mining areas (Imperial, 2015; Imperial, 2017)</li> <li>●Cost of tailings dam repair (Imperial, 2015)</li> </ul>
<b>Social</b>	<ul style="list-style-type: none"> <li>●More documentation and time for reporting to stakeholders (MPMC, 2017)</li> <li>●Time taken to consult with local communities and First Nations (Imperial, 2017)</li> </ul>

<b>Technological</b>	<ul style="list-style-type: none"> <li>●Expertise required for repair of tailings dam (Imperial, 2015)</li> </ul>
<b>Legal</b>	<ul style="list-style-type: none"> <li>●Private prosecution (MiningWatch Canada, 2017)</li> </ul>
<b>Environmental</b>	<ul style="list-style-type: none"> <li>●Physical impacts to soil and water (Golder Associates Ltd., 2015)</li> <li>●Chemical impacts to soil and water (Golder Associates Ltd., 2015)</li> <li>●Biological impacts (Golder Associates Ltd., 2015)</li> <li>●Biodiversity management (Golder Associates Ltd., 2015)</li> <li>●Tailings failure (Schoenberger, 2016)</li> <li>●Pollution abatement (Province of B.C., 2016)</li> <li>●Development of a long-term water management plan (Imperial, 2017)</li> <li>●Monitoring of areas affected by the spill (Imperial, 2017)</li> </ul>

#### 4.3.1.2 Gender-Based Violence

The social issue that has been analyzed is Barrick's response to the Human Rights Watch (HRW) allegations of GBV that occurred on and near the Porgera mine, also known as the Porgera Joint Venture (PJV). Although HRW provided Barrick with allegations about crimes committed by security personnel against local women in June 2010, Barrick did not respond to these allegations until February 1, 2011 (Barrick, 2011). Allegations were based on claims that violence against women, such as sexual assault and rape, was carried out by the PJV security personnel, the Asset Protection Department (APD), on and near the Porgera mine site. As of February 1, 2011, there were 450 private security personnel under the APD (Albin-Lackey, 2011).

The PJV is located in the Porgera Region of the Enga Province of Papua New Guinea and combines both underground and open-pit styles of operation; Barrick acquired the mine from Placer Dome in 2006 (Barrick, 2011). Barrick (Niugini) Ltd. (BNL) and Zijin Mining Group CO., Ltd. each own 47.5 percent of the PJV, while Mineral Resources Enga owns the other 5 percent (Barrick, 2015).

In response to the GBV allegations, Barrick conducted approximately 700 interviews of the APD and the Community Affairs Department of the mine, and also investigated the issue



of violence against women in the area of the PJV as well as in Papua New Guinea. Findings from these interviews showed that crimes, including sexual assault, were committed by some members of the APD. The members of the APD who were accused of committing assault, as well as mine employees who knew it occurred but did not report it, were fired. While a Papua New Guinean police task force conducted its own investigation and made arrests, no one was convicted (Barrick, 2014).

Any claim made as of 1990 (when the mine first opened) was eligible to be assessed. Assessments were carried out by third-party experts experienced in addressing GBV to determine whether claims were eligible to go on to further review under the Olgeta Meri (All Women Have Rights) Framework (“the Framework”). This was instead of going through the legal system or through the grievance mechanisms the PJV already had in place.

The development of the Framework, which supports the United Nations Guiding Principles on Business and Human Rights, began in 2012. While the Framework was developed by Barrick, it was implemented independent of the company by “prominent Papua New Guineans” (Barrick, 2014, p. 1). Claimants had the option to appeal any rejected claims (Barrick, 2014).

Through the Framework, 120 claims were resolved. Remediation came in the form of either financial compensation, access to support programs, or both. Overall, the payout was more than 2 million Papua New Guinea kina (approximately \$820,000) in benefits (Barrick, 2014). In 2015, it was determined that the 120 claimants would receive an additional 30,000 kina (approximately \$12,000) to “bring” the set of claimants “into line with the second set of claimants” (Barrick, 2015a, p. 1). This second set of 11 claimants did not settle their claims through the Framework, but instead went through the legal system. Earth Rights International represented these victims and settlements were made with Barrick, though details of these settlements remain confidential (Barrick, 2015a; Simons, 2015).

Barrick (2014) summarizes the changes that it implemented at the PJV following the allegations:

- Partnering and investing in initiatives that supported women who were victims of violence not only in Porgera, but also in other areas of Papua New Guinea
- Human rights training became mandatory for security employees and they were supervised more than they were previously. Cameras and radios were installed.
- All employees of the PJV had to undergo sexual harassment training
- Grievance mechanisms were improved for communities in the area

There was a ripple effect of further transformations at all of Barrick's operations following this issue. For instance, a human rights program was implemented in different business areas of the company. Barrick (2014) summarizes what this program included:

- New human rights and labour policies
- Human rights training
- New procedures for reporting human rights allegations promptly
- New procedures for hiring employees, including from third parties
- Assessments on risk and impact of human rights at all operations

Table 6, PESTLE Analysis: Barrick – Post Allegations of GBV illustrates additional factors the company faced following the issue.

This issue is one of many examples in the mining industry that has drawn attention to human rights concerns. This example highlights the need for companies to consider how human rights may be impacted by their projects (Kemp & Vanclay, 2013). Despite the human rights program that Barrick implemented, the company still faced criticism from some NGOs, like MiningWatch Canada ("Barrick has done its best," 2013). However, Barrick has worked with other organizations, including the Danish Institute for Human Rights, to improve Barrick's human rights performance (Barrick, 2013). The lack of change in Barrick's stock price between the day of its response and the next business day (Yahoo Finance, n.d.), the market average of gold for the week of and the week after Barrick's response, and Barrick's stock price percent difference compared to the market average (S&P

Dow Jones Indices, 2017) indicates that shareholders did not punish Barrick for the occurrence of GBV or for their response to the issue:

Barrick share price (US\$):	<u>Open</u>	<u>Close</u>	<u>% change</u>
February 11, 2011 (date of Barrick's response)	47.92	47.49	-0.8%
February 14, 2011	47.77	48.53	+1.5%
	<u>Open</u>	<u>Close</u>	<u>% change</u>
	February 9, 2011	February 16, 2011	
Barrick share price (US\$):	48.71	49.72	+2.0%
Weekly gold index	390.54	396.84	+1.6%

**Table 6.**

*PESTLE Analysis: Barrick – Post Allegations of GBV*

<b>Political</b>	<ul style="list-style-type: none"> <li>● Government policies (Barrick, 2014)</li> </ul>
<b>Economic</b>	<ul style="list-style-type: none"> <li>● Payout to victims (Barrick, 2014)</li> <li>● Cost of royalties to mine-affected communities (Gilberthorpe &amp; Banks, 2012)</li> <li>● Cost of wages (Gilberthorpe &amp; Banks, 2012)</li> <li>● Funding to the Porgera District Women's Association (Barrick, 2011)</li> </ul>
<b>Social</b>	<ul style="list-style-type: none"> <li>● Mandatory human rights training for security employees (Barrick, 2014)</li> <li>● Mandatory sexual harassment training for employees (Barrick, 2014)</li> <li>● Improved grievance mechanisms at the PJV (Barrick, 2014)</li> <li>● Development of company-wide human rights policies (Barrick, 2014)</li> <li>● Development of new company-wide labour policies (Barrick, 2014)</li> <li>● High prevalence of GBV in Papua New Guinea (Barrick, 2016b; Darko, Smith, &amp; Walker, 2015)</li> <li>● Investing in initiatives supporting victims of GBV (Barrick, 2014)</li> </ul>

	<ul style="list-style-type: none"> <li>● In-migration to already overcrowded communities surrounding the mine (Gilberthorpe &amp; Banks, 2012)</li> <li>● Violence over mine-related issues such as distribution (Gilberthorpe &amp; Banks, 2012)</li> <li>● Relocation houses deteriorating and communities expect Barrick to maintain and replace them (Gilberthorpe &amp; Banks, 2012)</li> <li>● Negative media attention on Barrick, affecting its reputation and spending time and resources to investigate media claims (Gilberthorpe &amp; Banks, 2012)</li> <li>● Criticism from NGOs (“Barrick has done its best,” 2013)</li> </ul>
<b>Technological</b>	<ul style="list-style-type: none"> <li>● Installation of cameras and radios to supervise security employees at the PJV (Barrick, 2015a)</li> <li>● Installation of high security fence around mine pit (Gilberthorpe &amp; Banks, 2012)</li> </ul>
<b>Legal</b>	<ul style="list-style-type: none"> <li>● Lawsuits from 11 victims (Barrick, 2015a; Simons, 2015)</li> <li>● Illegal mining at the site leading to clashes between illegal miners and mine security (Gilberthorpe &amp; Banks, 2012)</li> </ul>
<b>Environmental</b>	See environmental factors in Table 1 PESTLE Analysis: Canadian Gold Mining Industry

#### 4.4 Limitations and Reliability of This Study

The following limitations apply to both the semi-structured interviews and the CA performed in this thesis. The sample for this thesis was composed of senior and intermediate Canadian multinational gold companies. Junior companies (juniors) were not researched or included in the sample, as they are involved in exploration and not production or extraction activities (Mining Sector Performance Report, 2016). Additionally, juniors do not generate income, but are financed by the sale of shares (Mining Sector Performance Report, 2016). Given these disparities between juniors and intermediate and senior companies, incorporating

juniors within the sample would have resulted in invalid results because the companies within the sample would not have had similar characteristics. Therefore, an impartial comparison would not have been made. Despite having a small sample size of 14 companies, the results of the study can be generalized to the main population of the mining industry.

Fourteen Canadian multinational gold companies were approached for interviews, though only five semi-structured interviews were conducted (four with individuals at the firm level and one with an individual from an industry association). In order to enable the triangulation of the data, a mixed-methods research approach was used, and two research methods were conducted (interviews and a CA). Using a CA in addition to the interviews permitted the researcher to assess whether participant responses were supported in their companies' corporate reports; it also enhanced the content validity of the results. Holsti (1969) describes content validity as whether the results from a CA are "consistent with other information about the phenomena being studied" (p. 143). Combining the results from both the interviews and the CA demonstrated consistency among participant responses and results from the CA, particularly pertaining to the differences in the management of environmental and social issues. In response to Holsti's (1969) point, the results from the CA were consistent with participant opinions on mining issues, and this supports the content validity of this research.

One of the limitations of semi-structured interviews is that data from interviews is confined to the information that is provided by participants, as well as by the number of participants. Five semi-structured interviews were conducted, and because the number of interviews was low, data was triangulated with the use of a CA. (Recall from above that the follow-up interview was conducted after the five semi-structured interviews were completed and had been analyzed). The data found from the follow-up interview was factored in the discussion and conclusions of this thesis

Carrying out a CA has the following limitations. Before running the CA, word lists had to be created. As there were no set word lists for tailings spill and GBV in the literature, they

had to be developed. A potential issue with the lists that were developed is that words that make up the lists may not be relevant enough to the constructs, or words that are relevant may not have been included. However, this is not of concern, since an iterative process that was established in the literature (i.e., Short et al., 2010) was followed to ensure that the words that were included were reliable. This was done by having three experts who have had experience studying or working in the mining industry, or both, make suggestions on words that should be included and should not be included in the word lists. Word lists were reproduced and altered until the inter-rater reliability rate between the three experts was high enough (at least 0.70, as detailed earlier in the sub-section on CA). The research question, *How do mining issues affect the CSR policies and practices of Canadian multinational gold companies?*, concentrates on the CSR policies and practices of those companies, which is why SRs of the sample were analyzed through the CA. However, as discussed earlier in the CA sub-section, not all of the companies published SRs in all four years that were analyzed (2010, 2012, 2013, and 2015). While there was an option to only analyze the SRs that were published and available, there would have been too large of an information gap. This is why ARs of the companies were also analyzed. Given that SRs are published yearly (except for when companies do not publish them), the event window of one year before and one year after the occurrence of the two issues (Mount Polley tailings and the GBV allegations that Barrick faced), were chosen to ensure that they would fit with the publishing of the SRs. If companies did address these issues, it is presumed that they would have been included in the reports following the year the issues took place. The event window could have been within less than a year of the issues occurring, and thus, other company communications could have been analyzed through a CA such as CEO letters to shareholders and company press releases. However, the reports that were used, SRs in particular, provide a greater understanding of what companies consider to be of significance in regards to their CSR policies and practices. Participant A reflected this point: “It’s [got to] be much more material on what’s really affecting you [the company] and the jurisdictions you’re operating in.” Furthermore, Holsti (1969) explains that findings from CAs are not usually confined to the conclusions made from the communications that are run through CAs. Taking this point into consideration, the

conclusions made from the CA can presumably be generalized to what the sample deemed important or unimportant. Therefore, analyzing SRs through a CA allowed the researcher to assess how important tailings and GBV were to the sample, if at all. Another limitation that Weber (1984) cites is the abundance of information in texts and the lack of a way to reduce it. This limitation was overcome by using CATScanner, a CATA. The software went through the reports to code for the word frequencies of the two constructs, eliminating the need for human coding, which also increased reliability. The CA was limited to the information found in these reports. Therefore, if any information regarding these events was published in other company communications and not in these reports, this research did not capture it.

#### **4.4.1 Biases**

All conclusions that have been made from this thesis are based on the results from the research design that included semi-structured interviews and a CA. Having worked in the industry, the researcher was aware of having preconceived notions of the industry and made an active decision to set them aside while conducting the research. The methods were carried out and the results were analyzed with care, so as to avoid any personal bias.

All participant responses were reviewed and all varied opinions were included in the results of this thesis. Word lists designed for the CA were derived via an iterative process that included gaining a consensus among three experts of the mining industry; this also limited the influence of the researcher's own opinions regarding the two constructs that were used. The use of a mixed-methods approach allowed the use of multiple research methods to support findings and enable the triangulation of data.

## Chapter 5

### Results

#### 5.1 Results From Interviews

Participants cited a number of disruptive issues that they believe have affected the Canadian gold industry. Table 7, Disruptive Issues illustrates the range of issues that were mentioned during the interviews, and these include environmental, social, policy and standard creation, as well as initiatives.

**Table 7.**

#### *Disruptive Issues*

Environmental	Social	Policy & Standard Creation	Initiatives
Tailings spills and dam failures such as Mount Polley, Samarco, and Omai	Conflicts, social opposition, rape, gender violence, security of local communities, transparency, conflict minerals, health and safety, First Nations, employee protests, roadblocks, jobs	John Ruggie's United Nations Guiding Principles on Business and Human Rights, Voluntary Principles on Security and Human Rights, MAC's Towards Sustainable Mining Framework, Cyanide Code, OECD Multinational Guidelines, World Gold Council's Conflict-Free Gold Standard	The Whitehorse Mining Initiative, CSR Roundtables, Mining, Minerals and Sustainable Development Project, The Devonshire Initiative



Most participants felt that the disruptive mining issues also affected the CSR policies and practices of their companies. It was found that there is a strong link between regulations and standards set by industry associations, and the effect they have on companies' CSR because companies are required to follow those regulations. Participant A felt that such issues affected the industry, but, "haven't really affected [the company]." It is apparent that this participant saw the effect issues had on the mining industry through the development of standards; however, the participant did not make the connection that standards have affected their company since their company follows them.

Pertaining to the two issues used for the constructs for the CA, the GBV allegations faced by Barrick were mentioned by two participants, although one pointed out the same issue that occurred at a different mine and not at Porgera. Participant D felt that the issue was "absolutely" a disruptive mining issue.

The Mount Polley tailings spill was mentioned as having an effect on the gold mining industry by all five of the initial participants and the additional participant in the follow-up interview. It was the only issue that all of the participants mentioned as having an effect on the industry. The issue also had an effect on companies, though one participant did not believe the issue had an effect on the CSR practices and policies of their organization. Participant A mentioned that, "Mount Polley [has] . . . shaken up the industry," but did not feel it specifically affected their company, due to the stringent tailings practices they already had in place. All of the other five participants, however, felt that Mount Polley did affect the CSR policies and practices of their organizations.

Through the interviews, it was found that mining issues have had different effects on the risk management systems of the companies in the sample. A range of risk management was apparent, from not identifying the effect of issues on companies to acknowledging the issues, but not having a risk management system; to companies having a comprehensive risk management system identifying a range of industry issues. Participant A's firm's risk management did not appear to be comprehensive or proactive; this person said that "loads [of issues]" have affected the Canadian gold mining industry, but did not recognize how such

issues affected their firm specifically. Participant A did recognize the importance of trying to prevent issues from happening in the future. “There’s no policy you can put in place for social disruption. You [have to] work on stopping it before it happens.” They also discussed what their firm does on the ground, specifically in regards to creating quality engagement in the communities in which they operate to avoid “community uproar and fighting.”

The way in which Participant A’s firm does this is by having staff on the ground and was explained thusly:

That whole thing with this conflict resolution is don’t get yourself into the conflict to start with. Do everything you can up front. It doesn’t mean it won’t happen, especially when it’s politically motivated. But we’re really transparent in the communities now. With our guys now, taking away a lot of their desks and they are in the community, got them a vehicle. They’re driving there, they’re spending time, they’re socializing with the communities. That’s how we avoid conflict.

It is evident that Participant A’s company aims to prevent issues from happening by having staff on the ground to carry out engagement with communities where the company operates. However, nothing was mentioned about having a risk management system that involves analyzing issues that have occurred to other companies and considering how their own firm should try to prevent those same issues. The participant also pointed out the inevitability that there is always a risk that issues may occur, even if preventative measures are taken.

In a difference stance, Participant E identified the impact that the issues had on their firm by, “making tweaks to [their] policies and procedures, as far as how [they], need to improve [their] sites and accountability for how [they] manage these risks.” This sets this company apart from Participant A’s company by acknowledging that issues do affect their CSR policies and practices. What differentiates this company from the companies of Participants B and C is that Participant E did not mention anything about having an extensive risk management system; still, this firm clearly carries out behaviour to prevent risks, as is evident in their changes to policies and procedures. Participants B and C discussed their risk

management systems, and they appear to be comprehensive and proactive (and will be discussed in the subsequent chapter) as they try to prevent the onset of issues.

As evident in the interviews, the risk management systems of the sample were affected by mining issues, and other areas of companies were also affected. Participant B talked about insurers and how they pushed their company to be more vigilant and proactive in preventing issues. “Since the Mount Polley event, our insurers – cause we have environmental insurance – they’re asking us a lot more questions.” Policies within companies have also been modified, and this was illustrated by Participant E’s stance on the modification of policies. Therefore, the occurrence of mining issues have affected the gold mining industry through the increased standards and regulations put into place, which in turn have affected the behaviour of Canadian multinational gold companies by the requirement of following these regulations. The risk management of these companies has been greatly influenced by mining issues, which brought more pressure from other stakeholders, such as insurance companies, and prompted modifications to company policies.

Despite the negative impacts that the occurrence of many mining issues have had, one being the increased negative reputation of the industry, since companies “are painted with the same brush as the bad players” (Participant B), the eventual outcomes may have a positive effect. The development of new standards and regulations was brought up in multiple interviews as a disruptive mining issue because it has had an impact on the mining industry and the CSR of Canadian multinational gold companies. An additional concept that came up was that through the compliance with these standards, companies were improving their behaviour. Participant E illustrated this sentiment as they “considered [standards] a disruptive change to the industry . . . in a positive sense.” While it can be concluded that mining issues have an effect on the CSR policies and practices of mining companies and the industry as a whole, issues are not the sole reason why these policies and practices may change and “are more of a tipping point” (Participant C). This is reflective of Participant E’s sentiment that, “There haven’t been . . . one-off instances or anything where an event has caused a huge groundbreaking shift in the industry.” The example of tailings failure issues and the discussion of these issues with Participant E reflects this concept. When explaining

why their firm looked into making changes to their tailings management, Participant E stated, “There’s a thousand different reasons why we finally decide on taking an approach to something.” Participant E went on to explain that issues such as the Mount Polley tailings spill are not the sole cause of deciding to alter management or behaviour practices within their firm. However, these issues contribute to the consideration of modified management behaviour.

Therefore, it can be deduced from the interview responses that mining issues are one of the elements that contribute to affecting the CSR policies and practices of companies and the mining industry, though there have not been any issues that have been the sole reason for a groundbreaking change in policies and practices.

All interviews included discussion of environmental and social issues. Participant B recognized that, “environmental impacts have social impacts.” This is similar to Participant D’s point: “When a large environmental issue comes up, there’s always a social element to it. When a social element comes up, there’s not necessarily an environmental element.” For example, Participant C emphasized that any issue impacting water correlates with social issues. However, Participant A had a dissimilar view on the difference between environmental and social issues; in their view, environmental issues are non-existent and all issues are social:

There’s no environmental disruptive event cause the environment doesn’t do anything. The social opposition can be because of environment. There’s no, in my opinion, there’s no environmental disruptive event . . . it’s human.

Participants were asked if their companies handle environmental issues differently from social issues. Participants had mixed responses to this. Participants B and C both measure issues through categorization systems that are similar to their risk management system. Talking about measuring social and environmental issues, Participant E stated, “environmental issues are easier to measure. . . . Our environmental performance is quite clearly prescribed.” On the other hand, in regards to social issues, the same person mentioned that “the social side’s hard to measure, but becoming increasingly important.”

Perhaps the lack of clarity in managing social issues can be attributed to their uniqueness. To illustrate this, the following issue is one that Participant A's firm faced:

About sixteen of them [members of a certain demographic group] apparently came across the border. . . towards our mine site. The. . . militia came to ask us for help, for accommodation, etcetera, the usual. We did, but then we found out afterwards they kind [of] went and executed these 16 people. Now we don't know, we didn't see it or we can't say what happened. . . We did what we were told to do in terms of, we listened to the military and [to] the [government] and they asked, so we did it.

When asked about whether this issue influenced policy development within their company, the participant responded with the following: "There's no policy you can put in place for social disruption. You [have to] work on stopping it before it happens. I don't [want to] have a practice procedure in place if we get a roadblock." Besides illustrating the uniqueness and complexity – especially as this one had government involvement – of social issues, the following additional points come out of this example. Following this event, Participant A went to the board of directors of their company and told them that the company "needed to be aligned with the VPs [Voluntary Principles on Security and Human Rights] – there's no excuse." This is an example of a firm aiming to act in accordance with a particular standard, the Voluntary Principles on Security and Human Rights, because of an issue that occurred, and perhaps also as a way to prevent future issues from occurring. Additionally, the participant mentioned that work needs to be done to prevent such issues from occurring. As discussed earlier, Participant A's firm uses an approach that has employees on the ground engaging with local communities to mitigate issues from occurring.

The following sums up the participants' thoughts on managing environmental and social issues: some issues are managed and investigated in the same way through the same processes, though it appears that environmental issues are clearly prescribed and dealt with faster than social issues, as social issues tend to be more complex and not as straightforward to manage.

Data from the interviews revealed the following findings:

- Mining issues have impacted the CSR policies and practices of the industry, particularly through the development of standards and regulations
- Issues are not the sole reason for groundbreaking changes within the industry
- Mining issues have also had a range of impacts on the CSR practices of Canadian multinational gold companies, which is especially evident in their risk management behaviour
- There is a difference between the management of environmental issues and social issues

## 5.2 Data and Analysis From Content Analysis

The CA for *tailings spill* illustrated that word frequencies increased in the reports of nine companies from 2013 to 2015; five companies had a decrease in word frequencies related to tailings spill. Table 8, Frequency of Words – Tailings Spill presents the word frequencies of words related to tailings spill in both 2013 and 2015 of the 14 companies in the sample.

**Table 8.**

*Frequency of Words – Tailings Spill*

Company	2013	2015
1	14*	231
2	69	81
3	97*	124*
4	197	178
5	196	70*
6	146	158
7	149	264
8	38*	37*
9	41	62
10	81	35
11	119	206
12	24	59
13	62*	120
14	68	64

\*Only Annual Reports

The CA for *GBV* showed that word frequencies in the reports of 13 out of the 14 companies increased from 2010 to 2012. One firm had a decrease in words related to *GBV*. Table 9, Frequency of Words – Gender-Based Violence illustrates these increases and the one decrease.

**Table 9.**

*Frequency of Words – Gender-Based Violence*

Company	2010	2012
1	48	54
2	2*	8
3	23*	24*
4	115	260
5	22	96
6	4*	8
7	27*	183
8	82	59
9	9	10
10	46	59
11	31	50
12	10	29
13	11*	12*
14	10	28

\*Only Annual Reports

Data from the CA revealed that the word frequencies from the year before the Mount Polley tailings spill were not significantly different from the word frequencies the year after the spill. In contrast, data from the CA for *GBV* revealed a significant increase in word frequencies from 2010, the year before the allegations of *GBV* against Barrick, to 2012, the year after. The two issues that were analyzed specifically can be generalized to environmental issues and social issues. Given the lack of significant difference in the CA for

tailings spill, it can be inferred that environmental issues do not have an effect on the corporate reports of Canadian multinational gold companies. However, the occurrence of social mining issues do have an effect on the corporate reports of these companies. While the research question asks about the effect of issues on the CSR policies and practices of these companies, the CA measured what was included in the reports, and did not measure the actual practices. Still, given that the reports, especially SRs, account for the CSR practices of these companies, it is fair to suppose that these results can take a broader view to reflect the research question, specifically in responding to the effects on CSR.

### **5.2.1 Statistical Tests**

Following the completion of the CA, statistical testing was performed to determine whether the change in word frequencies from the year before to the year after each issue illustrated a pattern, or reflected a change in frequency due to chance (Creswell, 2014). A Kolmogorov-Smirnov (KS) test was run to test the normality of the distribution of both the tailings spill and GBV.

The results from the KS test showed that the distribution of the data from the GBV was not normally distributed:  $p=0.02$ .

This warranted the use of a non-parametric test to test the means, and a paired Wilcoxon Signed Rank test was conducted. This showed a small p-value, indicating a high statistical significance.

$$p=0.00453, p \leq 0.05$$

Given that  $p \leq 0.05$ , the null hypothesis was rejected. Therefore, the increase of words related to GBV from the 2010 reports to the 2012 reports illustrates that the issue had an effect on the reports of the sample of Canadian multinational gold companies. Therefore, by solely examining the SRs and ARs of the sample companies, it can be deduced that the allegations of GBV that Barrick faced in 2011 did have an impact on the CSR practices of Canadian multinational gold companies.



A one-tailed test was conducted because it was hypothesized that the word frequency would only go in one direction (increase), whereas a two-tailed test would have been used if two directions were being measured, i.e., whether the frequency of words would increase *or* decrease.

In regards to the data from the CA for tailings spill, the KS test showed a normal distribution:  $p=0.78$ .

Hence a parametric test, a paired t-test was performed. The test showed that the difference was not statistically significant:  $p=0.2131$ ,  $p \geq 0.05$

Given that  $p \geq 0.5$  for the tailings spill, the null hypothesis failed to reject. Therefore, the increase that was seen in words from 2013 to 2015 was not significant, and thus the occurrence of the Mount Polley tailings spill did not have a great effect on the corporate reports of the sample of this thesis.

Results of the CA revealed that environmental issues did not have a statistically significant effect on the reports, with only nine out of the 14 companies having an increase in word frequency from the year before the Mount Polley tailings spill (2013) to the year after (2015). In contrast, social issues did have a statistically significant effect, such that 13 companies' word frequencies increased in regards to words associated with GBV in the reports in 2012 from 2010; from this, it can be inferred that social issues tend to have a greater effect on sustainability and are more mentioned in SRs and ARs. This suggests that social issues have a greater effect than environmental issues on CSR policies and practices as reflected in the corporate reports. Environmental issues can easily be dealt with, given the industry's expertise in this area through the prescribed management of environmental issues. In contrast, social issues are not identified and responded to as straightforwardly, due to their complexity. This motivates companies to adopt CSR policies and practices to mitigate future issues and to become proficient in mitigating and managing social issues with a similar amount of expertise as the handling of environmental issues.

## **Chapter 6**

### **Discussion**

#### **6.1 Discussion**

As described earlier, social issues are harder to measure, address, and manage overall when compared with environmental issues. This difference can be attributed to additional subjective factors that are hard to measure and mitigate such as gender, power relations (i.e., between communities and companies), country mores, culture, and religion, all of which frame social issues and make them more complex than environmental ones. When discussing what must be considered when undertaking SIAs, Esteves, Franks, and Vanclay (2011) explain that the above factors must be understood in order to recognize how they influence the development and changes of social relationships. This consideration must be extended to how these concepts influence the communities associated with mining activities.

While those additional factors are hard to quantify in terms of the amount of influence they have in communities, the effects they have are visible. For instance, GBV is a highly prevalent issue in Papua New Guinea, and over two-thirds of women have suffered physical or sexual violence (Darko et al., 2015). This does not justify the behavior of Barrick's employees, but rather calls attention to what Barrick and other companies can do to reduce or eliminate such violence from their operations. From research, Barrick (2014) found "that most of the affected women would be reluctant to seek remedy through the legal system or the PJV's existing grievance mechanism, for fear of reprisal and re-victimization" (p. 3). The research that Barrick found demonstrates the further complexity of the issue, as the rights of the victims were at risk of being further violated. Not only was the risk of women being shamed and blamed present, but tribal conflict was also at risk of occurring if families, especially husbands of the victims, found out that their wives had been abused. Per Barrick (2014), "in Papua New Guinea, women are blamed for whatever happens to them," and this is why victims were quiet about the violence (p. 39). Additionally, "communal rights are more important than individual rights," and victims who kept quiet were trying to avoid conflicts such as tribal fights (Barrick, 2014, p. 39). Barrick had to deal with the allegations

of GBV in such a way that would not generate further human rights violations of the victims or conflict in the surrounding communities. These customs are examples of what Barrick had to consider when addressing the allegations, and this led the company to develop the Framework (described in section 4.3.1.2) as part of the company's response.

Barrick had to contend with Papua New Guinea and Porgera norms, whilst addressing the GBV allegations it faced. Just like any company that operates, they must operate within national, regional, and local norms. Companies working in the international mining industry face greater challenges because of how diverse it is, the variance of factors between regions and working with mores that may not be the norm in their home country, but are the norm in countries where they operate. Taking into consideration such norms not only adds difficulty, but can also add more time when addressing social issues; such norms do not usually need to be considered when addressing environmental issues.

Another difference between the two types of issues that have been discussed is that environmental issues can be solved in prescribed ways, some of which include the use of technology. Technology cannot be used to treat social issues, since they tend to be softer and are impacted by the factors that were stated at the beginning of the chapter. This lack of simplicity may be a cause of why social issues linger.

Mining companies must understand how subjective factors influence the societies in which they operate because these can affect what happens on mine sites, and that, in turn, affects whether they can gain their SLO in these areas. Companies have to adapt to the countries in which they operate and be aware of how issues are impacted by subjective factors that exist in these countries. The difficulty in predicting, measuring, and addressing the diversity of expectations, along with the layer of complex factors stated above, may explain why companies have such a hard time trying to manage social issues in comparison to environmental issues, which are far less complex.

## 6.2 Looking Through an OA Lens

### 6.2.1 Focus of Attention

Focus of attention, as defined above is, “what decision-makers do depends on what issues and answers they focus their attention on” (Ocasio, 1997, p. 188). The Mount Polley tailings spill influenced four out of the five interview participants and the follow-up interview participant. In some cases, their tailings management facilities had third-party audits to ensure that they would not sustain a similar event. The Mount Polley tailings spill had Participant B’s firm “consider stuff that [they] had not considered before.” Specifically, the occurrence of the spill brought attention to certain technical aspects of tailings that the firm had not considered before the incident happened. They explained the effect of the Mount Polley tailings spill on their firm:

If you do a proper risk management, [something] like [a] Mount Polley disaster was always on our books. It’s just that when Mount Polley happened, we learned technical stuff that we had not considered before. We learned something from that incident.

This participant’s statement illustrates that companies have focused their attention on this issue, and through this attention, have sought ways to prevent repeats and avoid the situation of the Mount Polley tailings spill. Additionally, this excerpt also shows that environmental learning by companies is very evident in the industry. Companies watched, learned, and carried out processes to ensure that they did not face tailings failures like Mount Polley.

The other issue used in the CA, the allegations of GBV that Barrick faced, also came up in the interviews. Participant D mentioned why this particular issue was disruptive:

The way in which they [Barrick] have addressed that or tried to provide remedy to the women affected . . . the industry has taken notice of that and is seeking to learn how to address or, well, first of all, how to avoid those incidents from happening. How to put in place good, strong measures to prevent that from happening? But also, when large, unfortunate things happen, how do you provide adequate remedy?

This quote confirms the lack of knowledge in dealing with social issues, especially the issue of GBV.

Development of industry standards has affected the Canadian gold mining industry. Standards often arise as a result of certain incidents and provide a way to avoid these issues (Paton, 2000; Schiavi & Solomon, 2007). This reflects the fact that individuals develop standards based on the issues they must focus on. Participant A describes the effect of standards of their firm:

[Standards] have all come about because of issues and because of the extractives and other industries not meeting certain regulations. . . . Years ago, in our career, we didn't do social impact assessments, we didn't have social management plans, we didn't have things like . . . the Voluntary Principles on Security. And none of that was around, so, all of this has affected our industry hugely. We now have got a lot more guidance.

Not only have standards come about from the occurrence of issues, but the issues that companies focus their attention on influence which standards they will follow, and this has an effect on their decision-making.

In regards to environmental and social issues, the interviews revealed that a difference is present in how these are managed and addressed. Participant C highlights this difference:

You know, an environmental issue . . . it was a spill and it was rectified and it's done. Like it was cleaned up and that's the end of it. . . . I am asked far more often about events, social issues, that occurred in the past. . . . Social events have . . . a longer shelf life.

Participant E also discussed the lack of ease in managing social issues.

The social side's hard to measure, but, becoming increasingly important because of the level of influence that, you know, how local communities . . . have on the development of our mines and projects. . . . It comes down to people . . . these aren't things that are easily quantifiable, but you can certainly come up with ways to measure, or get an idea for . . . various satisfaction levels around our sites, for sure.

Participant E stressed here the importance of measuring the social side because of the importance of community relationships for mining projects. This is tied closely to the importance of gaining an SLO (Boutilier et al., 2012; Laurence, 2011), which then leads to the importance of the link between the SLO and the measuring of social risk (Demuijnck & Fasterling, 2016).

On the matter of risk, the above excerpt highlights the difficulty in measuring social risk, which arises from the lack of objective, independent measurement techniques. However, it still must be addressed, given its increasing importance, as felt by Participant E in the above quote. To address social situations, companies must follow certain stipulations. They must perform effective predictive assessments and management activities (Franks et al., 2014) to predict and forecast possible scenarios and mitigate actions.

Predictive assessment is reflected in the corporate risk management systems at the companies where Participants B and C work. Here, the probability and severity of potential risks are measured. Predictive management of social issues does not appear to happen based on the results of the interviews. There are no prescribed procedures to manage social issues, unlike environmental issues. Franks et al. (2014) also stress that risks must be quantified, because once companies recognize the financial implications and the effects on business risk, they are more apt to reduce environmental and social risks. However, they are not so “easily quantifiable,” as per Participant E.

Taking these stipulations into the context of this research, environmental and social issues must be predictable and quantifiable for companies to identify and create goals and targets for them. Participant E emphasized the difficulty in measuring the social side, which could be a factor in why social issues tend to lag, or “have a longer shelf life,” as mentioned by Participant C, when they do occur. Perhaps it is this difficulty that makes them unpredictable to companies, and the fact that they cannot be quantified, which creates uncertainty. This lack of identification, and consequently the lack of prevention and management strategies, means that they cause the long-lasting effects when they do occur.

Given that social issues have a lingering effect, companies must seek out both short-term and long-term solutions to these issues (Slawinski & Bansal, 2015). However, could the uncertainty described above regarding the measurement and management of social issues hinder the efforts to focus on the long-term solutions to these issues, in turn affecting the focus on long-term societal interests? Environmental issues are complex and can be long-term, but they are not as problematic as social issues, which adds even more difficulty in finding long-term solutions to certain social issues. For example, the issue that Participant A faced in which a government asked the company for help illustrates an issue that was time-sensitive. So it is understandable that the firm would look at short-term solutions, since their short-term business interests were at stake. If the firm did not respond to the government's request, the company risked having its operations shut down. However, as seen in the data of this thesis, the effects of social issues are ongoing, and quality engagement must be maintained with communities to ensure a company's SLO. As explained earlier, the more established the SLO, the smaller the risk companies have of facing social issues (Demuijnck & Fasterling, 2016). Thus, companies must generate both long- and short-term solutions to address both business and societal interests; otherwise they risk facing further social issues. Therefore, a company seeking to gain or sustain a SLO would need to understand who and when, which stakeholder holds the balance of power. Future research is needed to unpack the variability, type of issue, timeline and balance of power.

### **6.2.2 Situated Attention**

The principle of situated attention, as described earlier, contends that the “issues and answers decision-makers focus on, depends on the particular context or situation they find themselves in” (Ocasio, 1997, p.188). Participant A, whose company does not have a comprehensive risk management system described their approach to issue avoidance:

We're focusing now on localizing as much as we can with our community relations people. That means getting people out in the communities. That means quality engagement, meaningful engagement, timely engagement – not throwing money around. . . . We've got better relations with communities cause we're not throwing money around. So we've changed that, we're

making sure we're accessible, so we have a proper grievance mechanism.

This is a case of situated attention. Employees of this company perform actions based on the existing situations in which they operate. When employees locally engage with communities, a company has a fine attentional grain, meaning that they have a greater view of what is happening on the ground; this permits their focus of attention on local issues (Bansal, Kim, & Wood, *forthcoming*). However, given attention is limited (Cyert & March, 1963), by devoting so much attention to the local may result in missing other risk factors that are outside the company's immediate operational areas. These include large-scale issues such as climate change, poverty, and hunger.

### **6.2.3 Structural Distribution of Attention**

Structural distribution of attention is about how the “particular context or situation decision-makers find themselves in, and how they attend to it, depends on how the firm's rules, resources, and social relationships regulate and control the distribution and allocation of issues, answers, and decision-makers into specific activities, communications, and procedures” (Ocasio, 1997, p. 188). While the development of industry standards is illustrated as focus of attention, the use of these standards by companies is an example of structural distribution of attention. Participant A pointed out why their firm accepts certain standards and not others. When determining which voluntary standards to follow, their firm asks, “How relevant is it [the standard] to our local stakeholders?”

The standards are there, and of course we've got to do them, but what's the most important is our social license on our mine site. Our relations with the local government and the communities, that's everything. Everything else is, is kind of icing. If you don't get that right, then you're stuffed.

This illustrates the importance that companies place on their relations with communities, and how these communities influence which standards companies focus on and comply with.

The range of risk management systems used by the sample was brought up in the interviews. Two participants' firms had risk management systems that incorporated the



severity and probability of mining issues. Participant B described their risk assessment process as having a “Risk Register,” which is “fed by internal incidents . . . and [issues that occur] outside of [the company].” Risks are measured in terms of the probability of occurrence, and the severity of the consequences that would result if the events happened. The planned resolutions are scripted and implemented. Thus, this Risk Register aims to prevent incidents that have occurred in the past to them and other companies.

Similarly, Participant C’s firm has an event management system where issues are classified as environmental, safety, social, and security issues, and are rated using a “severity matrix.” According to Participant C, “Severity is both a combination of both impact to the company and also impact to the stakeholder.” Issues that occur both to their firm and others are included in this severity matrix, similar to the Risk Register of Participant C’s firm. Both Participants B and C are from senior companies, the only senior companies that participated in interviews. This suggests that larger companies have greater attentional resources and can focus their attention on issues using comprehensive risk management systems.

When discussing specific corporate examples, Participant A described further the aforementioned issue in which a government asked the company for help in providing amenities such as accommodation (this was detailed in the section on Results from Semi-Structured Interviews, recall). The following excerpt explains the participant’s company’s approach:

We did what every company would do when . . . the national government asks you to help. You help. What we didn’t have in place is paperwork and an understanding of what help we’re willing to give and not give. . . . It’s really politically corrupt. . . . Our assets [are] there, so we [have to] listen [to] the government.

The company’s decisions at that particular time were based on its relationship with the local government. Participant A added, “We did what we were told to do in terms of, we listened to the military and the [local government], and they asked, so we did it.” This illustrates the importance of the relationship between the company and the local government, because that relationship influenced the company’s decision to comply. This also reflects the

importance of companies' relationships with their stakeholders in regards to the issues that require their attention. This example shows that companies focus their attention on the issues with which their stakeholders are concerned.

## **Chapter 7**

### **Contributions, Opportunities and Conclusion**

#### **7.1 Contribution of Research**

This research provides the academic literature with a study of environmental and social issues in mining that uses a mixed-methods approach. This is a different research method than most of the methods that have been used to explore CSR in the past. Using the mixed-methods approach enabled triangulation of the data, and was an alternative research approach for analyzing mining issues. Although a complete event study was not performed, the analysis of mining issues had similarities to this approach. For instance, event windows were chosen specifically for certain years to analyze corporate reports through the CA. SRs and ARs a year before and a year after the issues were analyzed. Carrying out such a quasi-event study adds to the novelty of the research method used in this study.

The second contribution is highlighting the differences between environmental and social mining issues. Findings of this thesis revealed the differences in identifying the effects of the issues and the ways of measuring and responding to them. Measuring and handling environmental issues tends to be more straightforward, as most of the processes to handle environmental issues are prescribed. On the contrary, social issues are not easily quantifiable, and thus are more difficult in terms of their measurement and management. There are no processes that are prescribed in handling social issues, making the resolutions of them more challenging, depending on the issue. Lastly, once environmental issues are solved, they are usually finished and do not usually have a lasting effect; this is unlike social issues, which tend to have a lingering effect. Since both types of issues were focused on, their differences were revealed, and this contributed a comparison between environmental and social issues to the literature.

#### **7.2 Contribution to Practice**

This thesis provides valuable contributions to mining industry practitioners who focus on the CSR and sustainability areas of the industry, and also to all business operations within the

industry. The risk management practices of the sample, senior- and intermediate-level Canadian multinational gold companies, were one of the principal areas that were affected by the occurrence of mining issues, depending on the company. With this information, mining companies can assess their risk management to determine how effective it is in preventing social and environmental issues. Given the reoccurrence of such issues, it is presumed that these risk management systems are not effective.

This thesis also highlighted an industry-wide difficulty in the management of social issues. Given this difficulty, and especially since all social issues are unique, the industry must continue looking for effective ways to predict, measure, and mitigate social issues. This will yield best treatment practices and ultimately result in prescribed approaches for certain social issues, like there are for environmental issues. For example, companies that have faced certain social issues should collaborate with additional industry stakeholders (i.e., industry associations) to have a forum to discuss potential risks or incidents and possible prescribed methods to address these issues. The process used for the WMI could be used as a guide. MAC facilitated a multi-stakeholder process on behalf of the mining industry (NRCan, 2017), so perhaps MAC or PDAC could provide a similar process for social issues. For example, Barrick and other companies that have faced GBV on and around their sites should be part of these discussions, since they have firsthand experience in all aspects of this issue.

### **7.3 Opportunities for Further Research**

Because SRs and ARs are summary reports published yearly, they cannot capture all the actions taken shortly after the occurrence of mining issues. This handicapped the CA. Further research could look at performing a CA on a variety of corporate communications, such as CEO letters to shareholders, quarterly reports, and company press releases. These are published more often than yearly, and press releases are published as needed and in response to specific issues.

Analyzing a company's identification of and response to mining issues in the short term using these other corporate communications is an opportunity for further research.

Companies are looking for improved ways to measure social issues, and this can also be an area of collaboration and future research.

Measurement metrics in use now could be compiled and analyzed to generate more rigorous measures that measure social issues, and are valid internationally and in a variety of social circumstances.

Findings from the interviews in this study showed that Canadian multinational gold companies manage their risks with various levels of sophistication. These range from having some staff on the ground engaging with communities, to one company identifying the effect of mining issues on the industry, but did not outline a risk management system. In contrast, two companies had complex risk management systems to address and prevent issues. Further research could examine the actual risk matrices of these companies and document the actual issues that have occurred and thus assess how effective these risk managements systems truly are.

Overall, social issues tend to be more difficult to manage than environmental issues. This is due partly to the prescriptive attributes of environmental issues. Perhaps not all social issues can be prescribed because they are so unique that they cannot all be managed in a straightforward manner the way environmental issues can be managed. Future research could explore which social issues can be addressed with prescribed methods or even just guidelines on best practice.

As reflected in the interviews, issues were seen as being highly context dependent, thus providing some evidence as to the appropriateness of using OA to explore why some companies miss issues, whereas the two main theories used to explain mining company behaviour relative to issues to date, *rational choice theory* and *institutional theory*, fall short. Rational choice theory argues that companies would allocate their scarce attention resources to those issues that represent risk of significant financial loss, while disregarding those issues that represent a small financial loss. Yet, evidence from this research revealed that despite the small financial loss experienced by Barrick in its handling of the GBV issues, Barrick as well the Canadian gold mining industry were paying significant attention to social issues,

specifically GBV. Institutional theory seeks to explain why all firms tend to look similar overtime. Yet evidence from this research revealed a high degree of variability in not only what issues companies are paying attention to, but also the mechanism they use to assess issues risks (e.g., ‘boots on the ground’ versus risk matrices). Thus, the OA framework has enabled this research to unpack the reason as to why firms might not behave rationally and not look the same in how they attend to issues.

The findings from this thesis might be extended to other natural resource industries such as forestry, oil, and gas, which face similar environmental and social issues, but this will require further research.

## **7.4 Conclusion**

This thesis sought to answer the research question, *How do mining issues affect the CSR policies and practices of Canadian multinational gold companies?* Through an exploratory sequential mixed-methods research design, research from a sample of 14 senior and intermediate Canadian multinational gold companies was used to generate data for, and interpretations of, this research question. The first research method was five semi-structured interviews with five industry experts. This revealed that mining issues have affected the CSR policies and practices of the industry, and standards and regulations have been developed to address these issues. Additionally, social and environmental issues have also had a range of effects on the CSR of Canadian multinational gold companies. A range of risk management systems within the sample was apparent. These vary from an approach where employees spend most of their time on the ground engaging with local stakeholders, to companies that have comprehensive risk management systems which identify and measure industry issues in terms of probability and severity. However, the point was made that the occurrence of issues is not the sole reason behind major changes within companies and the industry. Numerous factors contribute to changing a policy or practice. Finally, participants also indicated that environmental issues are more easily measured and managed, as opposed to social issues, which tend to have residual impact even after they are thought to be

mitigated. Such issues and their long-standing effects factor into the negative perception of the mining industry.

The second method used was a CA. In this case, the corporate reports of the sample for the years 2010, 2012, 2013, and 2015 were analyzed. These were the years before and after Barrick faced allegations of GBV at its Porgera mine in 2011, and the years before and after Imperial suffered the Mount Polley tailings spill in 2014. Through the use of a CATA, the frequency of words from specialized word lists were analyzed in the relevant ARs and SRs to determine whether there was an increase of these words in the year after the occurrence of the issues versus from the year before. This showed if issues were important to the companies. In contrast to environmental issues, social issues are not readily identified and mitigated, and this highlights the need for companies to adopt specific CSR policies and practices to minimize this risk.

Considering the data from the interviews through an OA lens, the following points arise from the issues identified by the sample. Through examples given of focus of attention, the occurrence of the issues that were analyzed in the CA (the tailings spill and GBV) were identified as issues to be prevented; however, only two companies identified the social issue, GBV, while all participants mentioned the effect the Mount Polley tailings spill had on their firm or on the industry. However, statistical tests indicated that the differences in word frequencies for tailings spill from 2013 to 2015 were not statistically significant. Data from the statistical tests illustrated that the increase in word frequencies of words related to GBV was significant on corporate reports, and thus presumably affected the CSR practices of the Canadian multinational gold companies. Therefore, solely looking at the CA results, the Mount Polley tailings spill did not have much of an impact on corporate reports, while the GBV that Barrick faced in Porgera did. Additionally, while the development of industry standards are an effect of the occurrence of issues, industry standards also influence which issues companies focus their attention on.

In regards to the further difference between environmental and social issues, both types of issues should be predictable and quantifiable in order for companies to identify them.

However, it appears that there is more corporate clarity regarding environmental issues, both in how they are identified and how they are responded to. Social issues appear to not be managed as effortlessly and tend to have a lingering effect even once they have been addressed.

Instances of situated attention in the interviews illustrate that companies behave based on the situations that they operate in. The company from the sample with an approach of having employees on the ground and no comprehensive risk management system has a fine grain of attention, and identifies local issues in the areas in which the firm operates. This highlights the risk that companies could miss identifying large-scale issues and other issues within the industry if they only focus on issues that they are faced with.

The principle of structural distribution of attention through interviews demonstrated that relationships, specifically with communities and governments, influence companies' focus of attention on issues that are of concern to their stakeholders. This is evident in the standards that companies decide to follow and the influence of stakeholders on company behaviour. These relationships illustrate one of the many external factors that have an effect on the decision-making of companies and how these relationships shape company behaviour.



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## **Appendix A**

### **Semi-Structured Interview Questions**

1. What role does corporate social responsibility (CSR) play in your company?
2. Disruptive events are those that ultimately change best practices. What disruptive events, if any, have affected the Canadian gold mining industry?
3. How important was (were) this (these) events to (Participant's firm)?
4. Have (Participant's firm) CSR policies and practices changed following this (these) mining events? If so, how?
5. How important was (were) this (these) events to the industry?
6. Have the industry's CSR policies and practices changed following this (these) mining events? If so, how?
7. Is there a difference in way that (Participant's firm) or the industry handles environmental issues or events as compared to social issues or events?

## Appendix B

### Instructions to Experts on Word List Development

Thank you for your willingness to help me develop a computer-aided text analytic (content analysis) dictionary for disruptive mining events. A disruptive mining event is an organizational-level construct defined as an event that has, had an effect on or changed best practices.

Disruptive mining events are composed of two-dimensions: gender-based violence and tailings spill.

As an expert judge, you will be helping me to identify whether words, identified using the process outlined by Short, Broberg, Coglisier, and Brigham (2010), are representative of the identified construct based on the definition provided. Specifically, in evaluating the presented words, I would like you to respond to the following prompt:

**Would this word be representative of the construct if it was present in Annual and Sustainability/CSR Reports?**

(Annual and CSR/Sustainability Reports are organizational narratives that are communicated to shareholders and other stakeholders) (McKenny, Aguinis, Short & Anglin, 2016)

When you believe that a word reflects the construct, please place a "1" in column F, labeled "The Word Fits This Definition". When a word does not reflect the construct, please place a "0" in column F. Please feel free to say that a word is appropriate for both lists where it could reflect both constructs in Annual and CSR/Sustainability Reports.

Each dimension of the construct is represented as a pink tab below for your evaluation. After you have completed each word list, if you feel that I have omitted a word that should be associated with the construct, I would appreciate your input. Provided is an orange tab below, "Missing Words", where you can communicate these additions to me.

Thank you very much for your generosity in helping me develop this measure of disruptive mining events.

## Glossary

**Attention:** “To encompass the noticing, encoding, interpreting, and focusing of time and effort by organizational decision makers on both (a) issues . . . and (b) answers” (Ocasio, 1997, p. 189)

**Content analysis (CA):** “A research method that uses a set of procedures to classify or otherwise categorize communication allowing inferences about context” (Short, Brober, Coglisier, & Brigham, 2010, p. 321)

**Corporate social responsibility (CSR):** “The social responsibility of business encompasses the economic, legal, ethical, and [philanthropic] expectations that society has of organizations at a given point in time” (Carroll, 1979, p. 500)

**Corporate social performance (CSP):** Encompassing the management of stakeholders and social issues (Hillman & Keim, 2001)

**Corporate social responsiveness:** “The capacity of a corporation to respond to social pressures” (Frederick, 1978 in Wood, 1991, p. 150)

**Degree of discretion:** “The primary dimensions of responsiveness on which these organizations split and in the extent to which companies [attempt] to take control in their dealings with [environmental issues]” (Sonenshein, DeCelles, & Dutton, 2014, p. 98)

**Environmental issues:** “Issues . . . expressed as influencing or being influenced by ecosystems” (Bansal, 2003, p. 512)

**Focus of attention:** “What decision-makers do depends on what issues and answers they focus their attention on” (Ocasio, 1997, p. 188)

**Gender based violence (GBV):** “[Violence] that result[s] in, or is likely to result in, physical, sexual or psychological harm or suffering to women, including threats of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or in private life” (United Nations, 1993, p. 1)



**Junior company:** “Neither a producing company . . . nor the recipient of operating income from production or from some other business segments. Its principal business is exploration, for which it is raising funds through the issuance of treasury shares” (NRCan, 2016, p. iv)

**Legitimacy:** “A generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions” (Suchman, 1995, p. 574)

**Organizational attention (OA):** “The socially structured pattern of attention by decision makers within an organization” (Ocasio, 1997, p.188)

**Risk:** “Unexpected events that can to some extent be described” (Jensen & Sublett, 2017, p.21)

**Risk management:** “The process of identifying and analyzing risk and deciding on appropriate course of action to avoid or minimize the risks” (PDAC, 2009, p.59)

**Senior company:** “Normally derive [their] operating income from mining or other business segments . . . rather than from the issuance of shares” (NRCan, 2016, p. iii)

**Social impact assessment (SIA):** “[An] approach to sustainable development that is focused on prediction [and] harm minimization” (Franks & Vanclay, 2013, p. 40)

**Social impact management plan (SIMP):** "A management tool for addressing social impacts during the implementation of planned interventions (projects, plans, policies and programs)" (Franks & Vanclay, 2013, p. 41)

**Social issues:** “Emerging development[s] (Dutton, Fahey, & Narayanan, 1983, p. 308) surrounding topics such as the economy and society (Carroll, 1979, p. 499) likely to have a significant impact on the organization's present or future strategies” (Dutton et al. 1983, p. 308)

**Social license to operate (SLO):** Local communities’ and stakeholders’ level of acceptance, legitimacy, and/or approval of industry activities and companies (Demuijnck & Fasterling, 2016; Hall, Lacey, Carr-Cornish & Dowd, 2015; Harvey, 2014; Smits, Leeuwen & Tatenhove, 2017; The Fraser Institute, 2012)

**Situated attention:** “Issues and answers decision-makers focus on depends on the particular context or situation they find themselves in” (Ocasio, 1997, p. 188)

**Structural distribution of attention:** “[The] particular context or situation decision-makers find themselves in, and how they attend to it, depends on how the firm’s rules, resources, and social relationships regulate and control the distribution and allocation of issues, answers, and decision-makers into specific activities, communications, and procedures” (Ocasio, 1997, p. 188)

**Sustainable development:** “Development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (World Commission on Environment and Development, 1987, p. 43)

**Tailings spill:** “The leak of material remaining after valuable minerals have been extracted from mined ore and are typically stored or impounded in a managed tailings facility or placed as engineered fill” (MAC, 2011, p. 28)

**Uncertainty:** “Events that cannot be described because of lack of knowledge” (Jensen & Sublett, 2017, p. 21).

**Voluntary initiatives:** “Private or public efforts to improve corporate environmental behavior beyond existing legal requirement” (Paton, 2000, p. 32)

<b>Legal Name</b>	<b>Short form</b>
Barrick Gold Corporation	Barrick
Eldorado Gold Corporation	Eldorado
Goldcorp Inc.	Goldcorp
Imperial Metals Corporation	Imperial
Mount Polley Mining Corporation	MPMC
Noront Resources Ltd.	Noront
Placer Dome Inc.	Placer Dome
Yamana Gold	Yamana
Zijin Mining Group	Zijin